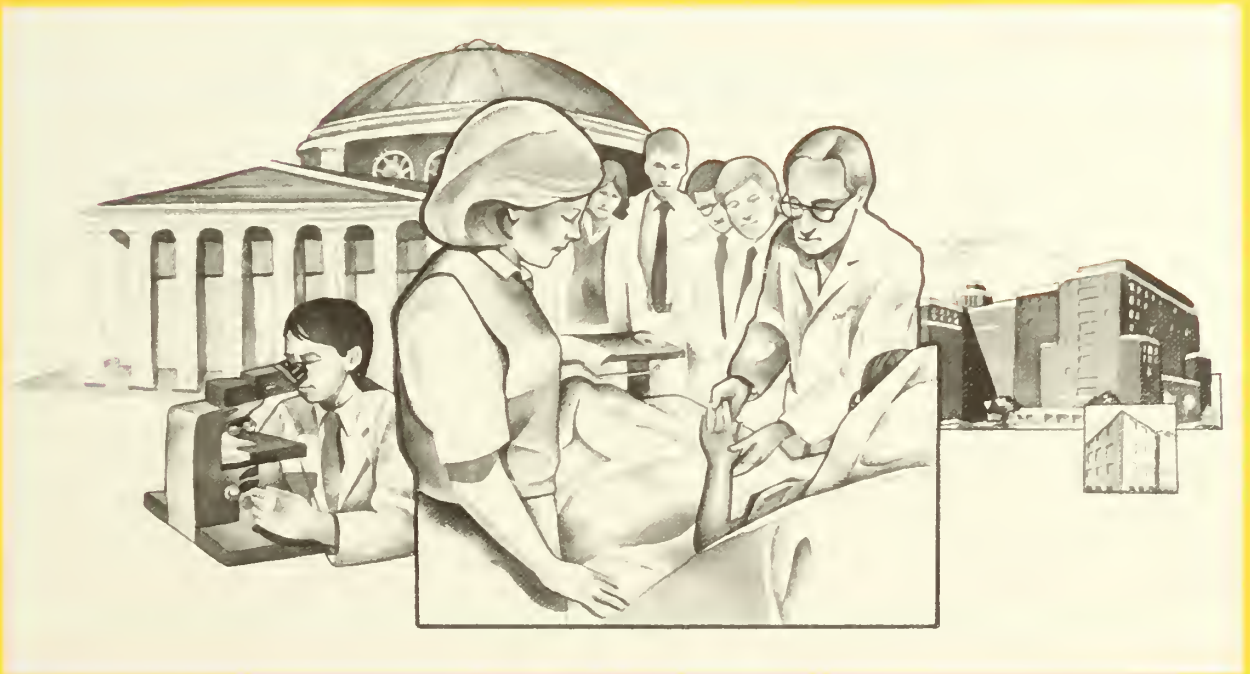


Department of Internal Medicine



University of Maryland School of Medicine

1807-1981



POTTER - BARTLETT - POWER - CHEW, S. - McSHERRY - CHEW, S.C. - WILSON
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Internal Medicine*



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School of Medicine*

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Theodore E. Woodward, M.D., M.A.C.P.
In collaboration with the Medical Alumni Association
of the University of Maryland



POTTER - BARTLETT - POWER - CHEW, S. - McSHERRY - CHEW, S.C. - WILSON
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Medical Alumni Association of the University of Maryland, Inc.
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DEPARTMENTAL HISTORY PREFACE

The measure of the quality of a medical school relates, in large part, to the caliber of its graduates and their career attainments. Those attainments relate to quality performance as practitioners of medicine who render effective and continuing care to patients, to significant advances in medical knowledge through their enlightened research and to the enrichment of others through their educational pursuits or their leadership roles in medical administration. Always, there must be an acknowledged and practical balance between the three missions of any medical school: the excellence of its teaching, patient care and research.

One of the great strengths of the University of Maryland School of Medicine since its inception in 1807 was its emphasis upon patient care. Throughout the nineteenth century, faculty members of the Department of Medicine stressed this vital point and students eagerly responded to the instruction. Ultimately, graduates attained positions of leadership in their various communities throughout the middle Atlantic and southeastern states. Patient care and teaching of clinical medicine are the pillars upon which the school and hospital were based, which extended well into the twentieth century.

The explosion of new medical knowledge began not long after the birth of the twentieth century. With it came the discovery of salvarsan in 1909, insulin in 1922, liver extract in 1927, biologic vaccines during the first three decades of the new century, penicillin and other antibiotics beginning in 1937 and the impact of molecular biology starting before World War II.

World War II shook the nation and the world from its foundations. With it, in spite of catastrophic devastation and loss of human lives, came medical advances in practically all fields, including the basic clinical discipline of internal medicine. The older and established standards of clinical skills did not change and the inculcation of these skills was the strength of the school and hospital. This reason, as much as any other, was responsible for the high marks that medical alumni and faculty members achieved in the global conflict, which witnessed the western nations allied as never before.

After World War II, the face of many medical schools had to change if they were to keep abreast of contemporary medicine and transmit such new information to their students. The knowledge explosion actually had no bounds.

In this setting, the Department of Medicine was well placed. By virtue of its firm base of clinical skills, its faculty members were joined by newly recruited men and women who were able to maintain the older basic skills and, at the same time, inculcate research methods. These were absolutely essential for the school and hospital to measure up to the new high national standards. Full-time clinical faculty members in medicine were appointed beginning in 1948. Growth in capable faculty members was steady over the coming decades. It soon became clear that nonsalaried and salaried faculty members had much in common in terms of complementing each other.

This departmental history attempts to relate in a factual and interpretative manner those chronological steps and events that brought the Department of Medicine to its full strength; the description ends in the early 1980s. Biographies of the various departmental chairmen are presented, curricular and training activities for students and house officers are given in a factual manner and biographic sketches of a few persons whose work and ideas greatly influence the programs are included. An attempt has been made to provide interpretative information regarding contributions of faculty members in relation to the current knowledge that prevailed at the time of their work.

Another important educational and research activity involved the interaction between faculty members of the basic sciences and the Department of Medicine. There have been pleasant and productive examples of coordinated research and integrated teaching with interplay in either direction. These activities deserve further historical comment. Much less would have been accomplished without the devoted and expert help of R.N. nursing staff members such as Eva Darley, Lorraine Neel, Jean MacVickers, Marilyn C. McGrath, Mary Koutrelakas, Margaret Noctor Ochita, Mary Bartholomew, Thelma Cleckner, and many others. Hopefully a qualified writer will prepare this history.

Homage must be paid to my friend, Joe Smadel, whose wise counsel and generous support favored the medical school and Department of Medicine in many ways. When Joe was Scientific Director of the Walter Reed Army Institute of Research in 1948, he invited me to join a small research team for studies in Malaysia which discovered the first therapeutic cures of typhus and typhoid fevers with chloramphenicol. This signifi-

cant event provided the initial spark to develop an infectious disease program at Maryland that actually highlighted and initiated clinical research in the Department of Medicine.

Joe first suggested that Dr. William S. Stone would provide needed leadership qualities as Dean of the School of Medicine. Dean Stone made an excellent record. Again, in 1954, it was Joe who gave Dr. Charles L. Wisseman, Jr. high endorsement for the Chairmanship for the Department of Microbiology. Charlie gave full measure during his long tenure.

Dr. Merrill J. Snyder came to the Division of Infectious Diseases from Joe Smadel's outstanding research laboratory at Walter Reed. Through many years, he contributed most importantly to departmental research activities.

In 1952, when Joe chose a medical team to study Korean hemorrhagic fever, I was privileged to meet three able physicians in that war-torn country who were later to contribute very importantly to the department and medical school. Joe gave much support and

help in our recruitment of Dr. Sheldon E. Greisman, Dr. George Entwisle (medicine and preventive medicine) and Dr. William S. Spicer, Jr. who were serving in the U.S. Army in Korea. Later, when Joe was Deputy Director of NIH, he was very helpful in our successful award of a Clinical Study Center to the Department of Medicine and the contract supporting the International Center for Medical Training and Research for the Departments of Medicine and Microbiology. Recruitment of such key faculty members to Maryland and the award of such research contracts and grants greatly strengthened the department and favored the medical school in so many ways that it is difficult to measure the advantages accurately.

Needless to say, there are probably errors in omission or commission with certain gaps in the sequential elaboration of the heritage and history of the department. None were intended. Many important events may have been overlooked and the validity of some work that is included is undoubtedly subject to question. For that, the author assumes full responsibility.

MEDICINE IN EARLY BALTIMORE

During more than two hundred years beginning in 1776, physicians in Baltimore and Maryland have held leadership roles in the practice of medicine and in the important progress of medical science so necessary for improving the standards of health and health care in America and abroad.

In 1729, the Maryland Legislature passed an "act for incorporation of a town on the north bank of the Patapsco," which, in 1730, had a population of forty-three, with two physicians, Dr. George Buchanan and Dr. George Walker. Sixty acres of land were purchased for 120 pounds (\$319.80) from Charles Carroll and the town was laid out. In 1755, Dr. Charles L. Wiesenthal, a native of Prussia, settled in Baltimore. He was one of the town's first medical teachers and later played a central role in developing the Medical and Chirurgical Faculty of Maryland. In 1776, Baltimore's population was 6,755, nineteen of whom were physicians. The Province contained two hundred thousand people. In this year, Dr. John Crawford arrived from Ireland to settle. Dr. John Stevenson was elected to the House of Delegates. These early practitioners, including Dr. George Brown, were to set the standards and gain the confidence of the citizens of Baltimore, which was vitally important in preparation for the founding of the University of Maryland School of Medicine.

In December, 1788, Wiesenthal, as President of the newly formed Medical Society of Baltimore, convened physicians in order to establish standards for the practice of physic. He was joined in this endeavor by Dr. Elisha Hall and others to draft a plan for a state medical society, the features of which were embodied in the Charter of the Medical and Chirurgical Faculty of Maryland.

In 1789, Dr. George Buchanan delivered a series of lectures on diseases of women and children to a group of nine medical students. Dr. Andrew Wiesenthal, son of Dr. Charles L. Wiesenthal, lectured on anatomy, physiology, pathology, operative surgery and the gravid uterus at his home on North Gay Street. The pupils of Buchanan and Wiesenthal drafted a complimentary notice of these lectures given with the "hope that it may prove the beginnings of a permanent medical school." In this year, Dr. Buchanan published the first monograph by a Baltimore physician, entitled "A Treatise on Typhus Fever." On April 10, 1790, the "Programme of a Medical Faculty" was announced for the ensuing winter: A. Wiesenthal, Anatomy; George Brown, Practice of Medicine; Lyde Goodwin, Surgery; S. S. Coale, Chemistry and Materia Medica; George Buchanan, Midwifery (*N. Y. Daily Advertiser*).

During the ensuing decade, Baltimore experienced outbreaks of fevers, particularly yellow fever, smallpox and typhus. Quarantine laws were formulated, temporary hospitals established, and a Board of Health proposed and organized in the year 1794.

A significant event in the development of medicine in the city occurred in 1796, when Doctors John Beale Davidge of Ireland and Nathaniel Potter of Caroline County, Maryland settled and began to practice medicine in Baltimore. During the same year, the State Legislature appropriated \$8,000 for the erection of a city hospital. The physicians continued their medical courses for interested students. On January 20, 1799, the Medical and Chirurgical Faculty of Maryland was organized and incorporated.

During the summer of 1800, Dr. John Crawford, who, along with Doctors Brown, Davidge and Potter, was to lead in the organization of a new medical school, introduced vaccine virus for the prevention of smallpox. Crawford had received the vaccine from Mr. Ring of London and had first used it in America simultaneously with Dr. Benjamin Waterhouse of Boston (see Ring, on Cowpox, 1801, p. 459). In 1801, Doctors Crawford, James Smith and Robert H. Author organized the Baltimore General Dispensary.

On June 15, 1802, the Medical and Chirurgical Faculty of Maryland met in Annapolis and President Philip Thomas urged the Assembly to adopt the plan for a medical college in Baltimore, which had been proposed at its previous meeting in 1801. Although the plan did not pass, those present did stress that candidates for a medical degree should be expected to complete strict examination as a requisite to that end. In December, 1802, Dr. John B. Davidge presented a series of lectures to medical students in midwifery and surgery at his home on East Street (now Fayette Street). On June 3, 1803, the Medical and Chirurgical Faculty met and appointed Doctors Davidge, Brown, Crawford, Potter and others to a committee to plan a medical college. The College of Medicine of the University of Maryland was finally incorporated on December 18, 1807, with John Davidge, John Shaw, James Cocke, George Brown, William Donaldson and Thomas E. Bond designated as professors. Doctor Brown declined the Chair, which was given to Nathaniel Potter, as Chairman of Practice. Thus, the Maryland College of Medicine, which became the University of Maryland School of Medicine in 1813, was established. The new medical school was the fifth oldest in the United States. Initially, lectures were given in the homes of the faculty members. The first graduates in 1810 were: Francis Cooksey, George T. Gunby, James Orrick,

William H. Dorsey, Robert W. Armstrong and Handy Harris Irving. On April 7, 1811, the cornerstone of Davidge Hall was laid at the northeast corner of Lombard and Greene Streets. Classes were first held in this building in 1812.

Advances in medical practice, education and research have played a significant role in elevating standards in Baltimore, Maryland, the United States and abroad. Baltimore has enjoyed and contributed to this rich heritage of progress, which has continued from its modest beginnings in colonial America and sustained itself until the present time. The University of Maryland School of Medicine and Hospital can be proud of the contributions of its former faculty members and alumni. These achievements, coupled with those of its

illustrious sister institution, the Johns Hopkins University School of Medicine, have benefited the citizens of the City and State and helped maintain Baltimore's posture as a leading American medical center.

May the proud heritage of service sustain itself in the coming decades.

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VIEW OF BALTIMORE, MD. 1752.

EARLY BALTIMORE



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Grateful appreciation is expressed to Mrs. Carol Young, my devoted secretary for more than three decades. Her administrative skills and efficient work patterns helped make this historical account possible and, in like manner, helped the Department to function in an organized manner. Others in the Department who merit an expression of thanks for their long and dedicated help are Mrs. Evelyn Bass, Mrs. Shirley Trapp, Miss Nan Glushakow, Mrs. Frances Thomas, Mrs. Velva Grebe, Miss Vickie Leshinskie, Miss Joanne Gibbs, Mr. Theodore P. Sorandes, Mrs. Shirley Heath, and Mrs. Cindy Butz.

Dr. Leonard J. Morse was very kind to take time from his busy schedule to prepare a biographic sketch of the ninth Departmental Chairman. He is a long-standing associate and friend.

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of Maryland graciously and generously provided funds to make this publication possible. Special thanks are due Dr. Benjamin M. Stein, Dr. Ronald J. Taylor and Dr. Bernard S. Karpers, past presidents of the Medical Alumni Association, and Mrs. Jean D. Thompson, Executive Director of the Association.

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DEDICATION

This history of the Department
of Medicine of the
University of Maryland School
of Medicine and Hospital
is dedicated
with gratitude and homage
to those former chairmen
and faculty members who,
through their dedication
to teaching high standards
of patient care, their
inspired clinical research
and their leadership qualities,
helped make the medical school
and hospital an important
resource in Maryland and the
United States



NATHANIEL POTTER 1807–1843

First Professor of Theory and Practice of Medicine Pioneer Proponent of Noncontagiousness of Yellow Fever

This biography is reprinted from the Winter 1978 Bulletin.

Nathaniel Potter was of Rhode Island ancestry, the son of Dr. Zabdiel Potter, a surgeon in the Continental Army during the Revolutionary War. Born at Easton, Talbot County, Maryland, in 1770 and educated at a college in New Jersey, he obtained his medical degree at the University of Pennsylvania in 1796, being a favorite pupil of Benjamin Rush and for many years later, his intimate friend.

During the epidemic of yellow fever in Philadelphia in 1793, Potter, then a student, returned to Maryland in August in consequence of the death of his father. He assumed responsibility for care of his father's practice and attended patients in Caroline County on the Eastern Shore. Doctor Potter was thorough in his medical duties and made accurate descriptions of clinical manifestations. His keen clinical and epidemiological observations convinced him that yellow fever was not contagious between persons. He communicated by letter with his old teacher, Rush, on August 20, 1793, and again on October 28, 1793.¹ These letters are presented in detail, along with his personal views and results of his unique studies in the next chapter.

Potter, who considered himself the only person in America to deny the contagion of yellow fever, requested Rush to publish these views in his paper describing the Philadelphia epidemic of 1793. Rush declined the proposal and stated his firm belief, "that all diseases arising from marsh miasmata were contagious in a degree proportional to their malignity, and that the opposite doctrine was utterly untenable."

Potter's classic monograph on yellow fever in 1818 describes his life experiences and those perceptive observations recorded during outbreaks of yellow fever in Maryland.

Potter began practice in Baltimore in 1797, the year after the city charter was obtained. In 1807, he became the first active Professor of Theory and Practice of Medicine at the University of Maryland School of Medicine. Dr. George Brown was ap-

pointed as the first Chairman of the Department but resigned before assuming office.

In his writings (1838, *Rise and Progress of the University of Maryland*), Potter spoke of his discussions with John Davidge and their concurrence in the belief that Maryland's new medical school should place emphasis on diagnosis and on the basic sciences of physiology and pathology, such as existed nowhere else in the United States. Doctor Potter wrote:

We (with Davidge) soon came to the conclusion that the science could not be successfully taught, under the usual organization of medical schools. We either did see, or thought we saw, that without the aids of physiology and pathology, either associated with anatomy, or as a separate chair of



Figure 1. Nathaniel Potter, Professor of Theory and Practice of Medicine, 1807-1843.

Institutes, the philosophy of the body, in sickness and in health, could not be understood.

This emphasis on physiology and pathology still allowed for abundant theorizing—Potter, for example, still spoke of “the philosophy of the body.” But the emphasis meant that medicine was being approached, to a unique degree, through the basic sciences. (Dunglison, *The Medical Student*)

Davidge was particularly emphatic about the necessity for a proper educational background before entering the study of medicine, a sufficiently long medical curriculum, the need for a fundamental knowledge of anatomy and other basic sciences and foremost that a physician should have a cultural background which he should constantly demonstrate by example.²

It is abundantly clear that Davidge, Potter and a small cadre of Professors, who constituted the faculty and hence the School of Medicine, gave it a firm base in the fundamentals of medicine as a prelude to understanding the clinical nature of illnesses and the techniques of management. Proper credentials for admission were regarded as essential and stimulus was given through inspired teachers and teaching which were to sustain the school during its critical formative period.

Professor Potter was of medium height, full figure and ruddy complexion. The portrait of him in Davidge Hall (see Figure 1) was pronounced to be a faithful likeness by his old pupils. He was an implicit believer in the resources of medicine. He relied especially upon calomel and the lancet, carrying the use of both far beyond what would be considered allowable at this day. Yet, he wrote that small doses of calomel were better than large doses. He did not put any trust in the *vis medicatrix naturae* and is said to have told his pupils that, if nature came in at the door, he would pitch her out of the window.

Students were admitted to lectures in Davidge Hall by cards, which were purchased from various faculty professors at the beginning of each academic session. An example of a card of admission to Doctor Potter's lectures on Theory and Practice in 1824

is shown in Figure 2. Presumably, the number 158 at the top of the card designates the alphabetical position of the student, Mr. George Wetherall, in the class. During this period, John Davidge was Professor of Surgery, Granville Sharp Pattison, Professor of Anatomy and Samuel Baker, Professor of *Materia Medica*. Potter lectured from his yellow and faded manuscripts until stopped by death. Beliefs with him were rules of faith and he acted upon his convictions without wavering or misgiving. His earnestness was vital, his faith in the resources of medicine was implicit. (Cordell) Potter was skilled in diagnosis and his prognoses were regarded by older citizens as prophetic.

The course called “theory and practice” or “principles and practice” was the most practical one in the University. All kinds of diseases were listed with descriptions of their symptoms and suggested treatments. Old Doctor Potter delivered the lectures for almost forty years from the same crumbling yellow notes: “Miasmatic fevers, dysentery, pneumonia, mumps, brain diseases, gout, . . . gastritis, enteritis, measles, smallpox, hemorrhoids,”—they all fit a system—“. . . whooping cough, epilepsy, apoplexy, paralysis . . . dropsy, nymphomania and hydrophobia.” Sheep dung was good for measles and calomel would do for almost anything. “Emptying the bowels is especially good for diseases of the Head.” The old widower had a particular interest in lovesickness which he believed was a major cause of fevers, hysteria and “mania.” This type of malady, he observed, was most common to women and to “men of delicate minds,” but “sometimes it occurs and may be produced by indolence, and hence it is that monks are more subject to this disease than other people. . . . It is also frequent among New England men.” Potter cited many examples. “I once saw [this mania] in an athletic young man who was constantly laughing and crying because he was obliged to be separated [sic] from his sweetheart for 3 weeks.” The prescribed cure was a diet of bread and water, cold baths, a hard bed and a “massive dose” of calomel. The permanent cure, he admitted, was “matrimony.” At least two hours a week Potter led his students to the infirmary to match lecture material with diagnosis, therapy and observable results. The infirmary was later completed and occupied as the Maryland University Hospital in 1823. Funds contributed by the faculty professors made the building possible.

Professor Potter was unquestionably learned in the medical lore of the period prior to about 1830. His fame as a teacher and writer extended far and wide, and his diagnoses and prognoses were prized by his pupils and patients as infallible. He was popular with his students who regarded him as an unerring authority and his fame gradually spread throughout the country. His diagnoses were made only by the aid of the eye and the sense of touch and his treat-

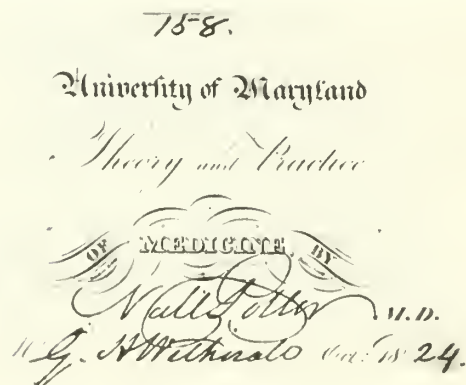


Figure 2. Student Card of Admission to Professor Potter's Lectures.

ments consisted mainly of the lancet and calomel. The editor of several medical journals and textbooks, his most famous work was a paper on the noncontagiousness of yellow fever.

Doctor Potter was a pillar of the University. He played a belligerent role in the opposition towards the Trustees regarding fiscal autonomy and authority of the faculty. This controversy peaked when the Maryland Legislature, in 1826, abolished the Board of Regents of the Maryland Medical University and transferred management to a Board of Trustees. The Board of Regents of the Medical University reorganized with Doctors Davidge, Potter, De Butts, Hall, Baker and McDowell as members. He loved the University with the most passionate devotion; threats, ridicule, indifference, adversity, poverty, nothing could shake his allegiance. When oppression became almost unbearable during the dark days of the legal suit, he remained determined and hopeful. The suit against the Trustees was reheard by the Court of Appeals, which, early in 1839, reversed the action of the lower court. His battle with the janitor over selling spirits and playing cards with students only increased his popularity. His steadfastness was shown by his unwavering attachment to the University throughout his long connection with it.³

He was also known for his fondness for cards and his habit of swearing. The Professor spiced his lectures with anecdotes which often "brought down the house." These occasionally taxed the credulity of the class, who responded by outward signs; to this skepticism he would reply, "I'm d _____, gentlemen, if it ain't so."³

Potter contributed much to medical literature through his publications in medical journals and chapters in medical texts of the day. His bibliography is appended.

In addition to those already mentioned, he held the following positions: Attending Physician, Baltimore General Dispensary, 1802-05; Secretary, Medical and Chirurgical Faculty of Maryland, 1801-09; Dean of the Medical Faculty, 1812 and 1814; President, Baltimore City Medical Society, 1812, and of the Medical Society of Maryland, 1817; Orator of Medical and Chirurgical Faculty, 1817; and Attending Physician to the Baltimore Almshouse.⁴

His latter years were clouded by pecuniary embarrassment which embittered his existence. He was twice married and his family became extinct, the last

being an aged maiden daughter. She stated that her father suffered from gout. He had to give up his residence on Lexington Street and take a smaller one on St. Paul Street. Doctor Potter's last years were marked by his devotion to the past and his refusal to allow the new techniques of medical diagnosis and treatment to be taught at the University.

The beginning of 1843 was made memorable by the death of the venerable Professor in his seventy-third year. He continued in the discharge of his professional and professorial duties up to the period of his brief illness, literally a relic of the past, for he had long survived the stage of intellectual acquisitiveness and aspiration and had no sympathy with the revolution in diagnosis and pathology that had been progressing for a score or more years.³

His death was sudden, occurring during a fit of coughing on the 2nd of January, 1843, and it is stated on the burial permit that he died of strangulation. It was said that he died with words of prayer on his lips.



Figure 3. Unmarked burial site of Professor Potter in Greenmount Cemetery, Baltimore.

When he died, after having served as Professor of Theory and Practice of Medicine and Chairman of the Department for thirty-six years, William Power and Samuel Chew assumed the course, eliminating much of Potter's theory. They expanded the clinical assignments for students and brought the stethoscope into use, an instrument that Potter had ridiculed as a "conjuring horn."

He was buried through the charity of his friends in the profession and his remains repose in Greenmount Cemetery, unmarked by stone or device (see Figure 3).

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CURRICULUM IN MEDICINE 1807–1844

Faculty Members: Nathaniel Potter, Robley Dunglison, William Potter, Samuel Chew, and others

After opening of the fledgling school in 1807, instruction for students in the Theory and Practice of Medicine was largely didactic. In addition to formal lectures, students received instruction in the homes of faculty members and were trained in offices of their preceptors, such as Professor Potter, who used private patients for instruction of general medicine. Academic sessions were seldom longer than four months since it was assumed that students could learn from didactic lectures and gain knowledge by study of books.

To keep abreast of the school's success, the small faculty enlisted community interest and, through a public lottery and use of their private funds, had the new medical building (Davidge Hall) constructed and ready for partial occupancy in the fall of 1812. Here formal lectures were given on the fundamentals of illnesses, as they were known, and their accepted forms of management. Student admission was by ticket (see Figure 2 in preceding chapter), which was purchased from the Professor at the beginning of each academic session.

Following the lectures, small groups of students were taken to the Baltimore Infirmary which opened on October 20, 1823; later, it became the University Hospital. Here practical demonstrations were given by Doctor Potter, and others, of patients and the specific medical problems that they presented. Only acute cases were admitted to the infirmary. Four clinical lectures were given each week, two medical and two surgical, and students voluntarily attended the daily visits of physicians and surgeons.

Particularly significant is the fact that the first in-hospital residency training program for students began in the hospital in 1823; there were two resident students, each was required to pay \$300.00 per annum, in advance, for board, laundry and room. Faculty members made their rounds, daily, usually at noon. Patient histories were written on admission by house students and read to the attending physicians.

The total weekly patient charge was \$3.00. In the operating theatre as many as several hundred students could witness operations. During the years 1820 to 1825, over three hundred students attended classes.

One of the requirements for graduation was the preparation of a thesis, which later was supplemented by oral examinations. Titles of the theses of the gradu-

ates for the session of 1843–44 included: Phthisis, Apoplexy, Dysentery, Pneumonia, Lithiasis, Intermittent Fever, Delirium Tremens, Menstruation, Scrofula, Endocarditis, Rubeola, Hernia, Dropsy, Opium, Influence of Atmosphere on Life, and Congestive Fever. These papers were well-written, legible and logically conceived in spite of the primitive medical knowledge of the day.

Teaching of Materia Medica, Hygiene and Medical Jurisprudence

Dr. Robley Dunglison, a graduate of the University of Erlangen, London, in 1824, was associated with the University of Maryland School of Medicine as Professor of Materia Medica and Therapeutics, Hygiene and Medical Jurisprudence from 1833 to 1836. In his lectures, Professor Dunglison placed much emphasis upon teaching "hygiene" or preventive medicine; this is said to have been the first course on the subject in the United States. He is known also for publication of a medical dictionary that went through many editions. Another effective teacher of Materia Medica and Therapeutics was Samuel Chew, who was elevated to this Chair in 1841. (Chew later became the fourth departmental chairman.)

When students worked as apprentices in offices of faculty members, they often prepared prescriptions that were ordered for patients. Therapeutics consisted primarily of purgatives, calomel, tonics and venesection.

Introduction of Technique of Percussion and Auscultation

William Power, a graduate of the Class of 1835, studied in Paris for five years under some of the great clinicians there, including Pierre Louis. (Power later became the third departmental chairman.) On his return to Baltimore, Power, who taught in the medical school, introduced the new techniques of percussion and auscultation of the lungs and heart to Baltimore for the first time. This was a major educational advance, the significance of which is immeasurable in terms of elevating the quality of clinical teaching as well as standards of medical practice. During 1841 to 1842, he delivered two courses of lectures at the Baltimore Infirmary on physical exploration of the chest in which he incorporated the known clinical mani-

festations of illnesses. (Cordell, p. 228) These well-attended lectures were the first of this type at the University.

Following Professor Potter's death in January, 1843, Joseph Roby, Professor of Anatomy, filled the vacancy until 1844. William Power and Samuel Chew as-

sumed responsibility for much of the course in the Theory and Practice of Medicine. In addition to the didactic lectures and practical clinical assignments in the Infirmary, students were made familiar with use of the stethoscope and technique of percussion in their clinical exercises.

The following chapter is an historical account of yellow fever
as it occurred in Fells Point, Baltimore.

Several faculty members of the medical school
contributed importantly to the clinical,
etiological and epidemiological knowledge
of this dread disease.

Also, contributions to the development of
better understanding of yellow fever
late in the nineteenth century
and early in the twentieth century
by alumni of the Medical School
are described.

MARYLANDERS DEFEAT PHILADELPHIA: YELLOW FEVER UPDATED

By THEODORE E. WOODWARD, M.D. AND (BY INVITATION) WILLIAM R.
BEISEL, M.D., F.A.C.P., AND ROY D. FAULKNER, D.V.M., USAMRIID,

FREDERICK, MARYLAND

The American colonies were ravaged by smallpox, measles and dysentery, but yellow fever provoked the greatest fear. If early colonial physicians had devoted more attention to clarifying the person to person transmission of either smallpox or measles, rather than their preoccupation with the contagious spread from person to person of yellow fever, enlightened control measures might have been made earlier.

The foremost protagonist of the contagious spread of yellow fever was Benjamin Rush of Philadelphia, the top physician of the era. Rush was surgeon-general of the Army under Washington, a scholar, politician and the father of psychiatry in the United States. His ideas and practices were widely accepted and served as a creed for others. Many followed but others declined, particularly physicians in Baltimore whose views on the manner of spread and treatment of yellow fever differed. These differences form the theme of this undeclared mock war between Philadelphia and Baltimore.

Rush held the view that yellow fever became contagious under unfavorable conditions, and the writings on this disease contain constant references to the effect of heat, moisture and organic decomposition on the spread of the disease.¹ After investigating the Philadelphia outbreak of 1793, Rush declared in the following year that it originated from some putrid coffee that had been discharged from a vessel.

He noted several cases in which the coffee had produced fever on the same day.²

In addition to the heated controversy regarding contagion was the issue of optimal treatment of yellow fever.

Rush supposed fevers to be the result of an unequal excitability and excitement; i.e., of over-excitation, especially of the blood vessels. Health consists in equality and uniformity of them both and the business of medicine is to equalize them in the cure of fever; that is, to abstract the excesses from the blood and restore them to other parts of the body.

Hence, the treatment of acute fevers called for low diet, heavy purging with jalap and calomel and bleeding to the limit of tolerance. These are

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FIG. 1. *Benjamin Rush*. Leading colonial physician and foremost advocate of contagion of yellow fever and treatment by bleeding and purging.

the theories and this, the practical application in which Rush took so much pride and for which he gained the enmity and scorn of many of his colleagues. The illogicality of treatment which invariably produces general debility to relieve excitement of blood vessels supposed to result in the first place from debility, seems never to have occurred to him.³

As early as 1777, in an earlier controversy, Rush, in his critical manner, expressed displeasure of Baltimore in a letter to his wife.

I had rode but a few miles before the badness of the roads, the difficulty of the ferry and the laziness of the Diamond convinced me that you had acted very wisely in determining not to accompany me to Baltimore . . . Mr. Middleton, after keeping his family at a tavern for a while . . . was obliged, for want of agreeable accommodations, to send them to Annapolis, 30 miles from this place. . . . Every article of provision, clothing, and the common conveniences of life are 100% higher in this place than in Philadelphia. . . . The water of the Patapsco River (upon which the city is situated) is a good deal brackish and even the water of the pumps and wells in the town is not wholly free from a saltish taste.⁴

The colonies witnessed frequent outbreaks of yellow fever which wiped out families and caused panic. The outbreaks of special interest to our theme were the classic epidemics in Philadelphia in 1793 and 1794, and in Baltimore and Maryland in 1794, 1797, 1798, 1799, 1800, 1808 and 1819. Sporadic outbreaks occurred specifically at Fells Point in 1853, 1854 and 1876. The Baltimore epidemic in 1797 delayed the outfitting and commissioning of the *Constellation*. At 9:00 a.m. on Thursday, 7 September, the stately new frigate slid down the ways at Fells Point and majestically came to anchor one hundred yards offshore. "Four days later, a plague (undoubtedly yellow fever) struck the area with a dozen bodies carted nightly to burial ditches in remote Sparrows Point. Workers huddled in their houses afraid to come out." Thomas Truxtun, newly appointed as Commander and Supervisor of Construction, fled to the country. When the outbreak ceased with the onset of severe winter, the ship was laid up until it could be outfitted in the spring.⁵ It is possible that an invasion and sacking of Baltimore was called off in 1814 by the British who feared the fever which occurred on the Chesapeake shores between the spring and fall equinox.⁶ (Walter Lord)

Notable among the points of controversy was the quarantine which the city authorities of Philadelphia leveled upon residents of Baltimore in 1819. David M. Reese,⁷ a respected physician of Baltimore, in his monograph, described the 1819 epidemic there and condemned this particular grievance upon the Port of Baltimore.

Instance the act of non-intercourse passed by the city of Philadelphia during the late visitation of Baltimore by a distressing calamity. The fact cannot be too severely censured nor too energetically deprecated. They go to show the irremediable injury to social enjoyment and familiar intercourse which the same principle would effect if pursued and practised. It is a cause, therefore, in which no tongue should be silent, no pen idle, nor no individual unconcerned. The cause of science, of philosophy, of humanity, of truth, all are interested in the extermination of this relic of ignorance and superstition. I call upon all governors and legislators, all teachers of philosophy, all votaries of science, all friends of truth, to unite in the destruction of this bane of commercial prosperity, this common enemy of liberty and philosophy. (Reese 89)

The following appeared in the transactions of the court in Philadelphia:

I do certify that the bill entitled: 'an act to amend and to continue' an Act for establishing an health-office and to secure

the city and port of Philadelphia from the introduction of pestilential and contagious disease, and the supplements thereto, 'which had been disapproved by the governor and returned with his objections, to the House of Representatives, in which it originated, was approved by two-thirds of the Senate, agreeably to the Constitution, on the thirteenth day of March, one thousand eight hundred and seventeen (1817) and that the foregoing is the act so approved by the Senate.⁷

Isaac Weaver
Speaker of the Senate

Attest

Joseph A. M'Jimsey
Clerk of the Senate

In his monograph, Reese slashed at those who advocated the doctrine of contagion and particularly

the civil authorities of the city of Philadelphia, a city which should last of all inculcate such absurdity, since that city produced but a few years since a luminary of science whose bright lustre of character has not been extinguished with the lamp of his life, but which will shine with splendor and grandeur when his persecutors shall sink beneath the surges of a dark oblivion. Yes, the spirit of Rush looks down with grief to see science prostrated, and truth sacrificed at the shrine of ignorance and superstition.⁷

Rush died in 1813 and, to his credit, in the 1809 edition of his "Medical Inquiries and Observations" abandoned his old harsh and unbending view of contagion to the following extent: "Yellow fever is not contagious in its simple state . . . it spreads exclusively by exhalations from putrified matters which are diffused in the air" and not by contagion conveyed directly from one person to another.^{8, 9}

Reese continued:

Their (Philadelphia) act of non-intercourse with Baltimore in the year 1819 will be an eternal blot upon the pages of their history, and future generations will laugh at their idle fears and groundless apprehensions and place Philadelphia philosophers with all their self-consequence on a level with those whose peace has been paralyzed by apprehensions of witches and ghosts in the dark ages of former superstition.⁷

Reese was quite clear in his own mind of the differences between infection and contagion. He defined infection as diseases which could be

contracted by one or more exposures to a "noxious atmosphere" or the "effluvia arising from putrifaction." He applied the term "contagion" to a "specific quality of a malady by which it may be communicated from a sick to a healthy body, by the latter inhaling the breath of the former or by actual contact."

In another act¹⁰ (p. 84-85):

That any person or persons and all goods, merchandise, bedding and clothing arriving at any port or place within the United States from any foreign port or place at which malignant or contagious disease (the smallpox and measles excepted) prevailed at the time of their departure, or in any vessel in which any such disease existed while they were aboard the same, are hereby prohibited from entering the city or county of Philadelphia or the county of Delaware, except the township of Tinicum, at any time between the first day of June and the first day of October in any year, either by land or water, without permission of the Board of Health, first had been obtained, under the penalty of five hundred dollars for each and every offense, and the forfeiture of all such goods, merchandise, bedding or clothing, etc.¹¹

Authorities of Virginia and Wilmington, the mayor of Alexandria and even Annapolis proclaimed non-intercourse with Baltimore after Philadelphia's lead. Ironically, Rush's contemporaries and successors dishonored him when he renounced the doctrine of contagion when his reason convinced him of its absurdity. It is true that late in the eighteenth century and early nineteenth century, Baltimore attempted to quarantine itself from Philadelphia and other eastern cities in which yellow fever was present. The teachings against contagion by Potter and Davidge, its two respected medical leaders, changed Baltimore's posture against the concept of spread from person to person or contact-contamination.

Nathaniel Potter, a former private pupil of Rush, during the epidemic in Philadelphia in 1793, returned to Baltimore later that year and attended patients there and in Caroline County of the Eastern Shore of Maryland. His keen clinical and epidemiological observations convinced him that yellow fever was not contagious between persons. He communicated by letter with his old teacher on 20 August 1793 and again on 28 October 1793. Potter detailed the circumstances of the epidemic in Caroline County and stated:

Those various forms of bilious fever, unquestionably owe their existence to the putrifaction of matters on the surface of the



FIG. 2. *Nathaniel Potter*. First physician to contradict Benjamin Rush in 1793 on contagion of yellow fever.

earth, after an uncommonly wet spring, followed by the driest and hottest summer that can be remembered by the oldest inhabitants of the country. Whatsoever may be the result of controversy so warmly agitated in your city, respecting the contagion of yellow fever; the epidemick has no pretensions to that character, in any of its forms. The dysenterick form is considered contagious by popular consent, but (me judice) is no more entitled to the epithet contagious, than the remittent or intermittent fevers. With all possible deference to your superior judgment, I cannot prevail upon myself to believe that any fever, arising from vegetable decomposition, is contagious. The origin you have assigned to the epidemick fever of your city is the only one that is physically possible,

and therefore you place your adversaries on equal ground with you, by acknowledging the fever contagious. Deny the existence of contagion as unphilosophical, and you've cut them off from every resource. If we admit one of the fevers from marsh effluvia to be contagious, we are bound (a priore), to admit them all to be so; intermittent, remittent, and dysenterick.¹⁰

Potter, who considered himself the only person in America to deny the contagion of yellow fever, requested Rush to publish these views in his paper describing the Philadelphia epidemic of 1793. Rush declined the proposal and stated his firm belief, "that all diseases arising from marsh miasmata were contagious in a degree proportional to their malignity, and that the opposite doctrine was utterly untenable."¹⁰ (Potter, page III)

Potter, in quoting his views regarding the quarantine laws of Philadelphia against Baltimore, felt

there could not be a more flagrant or more lamentable proof that the framers of these laws were destitute of every ray of knowledge of the true qualities of contagion, than the exemption of smallpox from the provision of their quarantine laws. That disease which assails our bodies through every sense but one, whose concentrated poison can be preserved for years, which ocular demonstration has proved to have been transported to every part of the commercial world, is permitted to scourge mankind, while we are legislating against a phantom, against a superstition, against a compound of fear and imagination, heightened by a mixture of the marvellous, as fabulous as any of the tales comprehended within the complicated machinery of the heathen mythology. The visions of contagion stand on a parallel with the calculations of judicial astrology, solemn exorcisms, enchanted castles, and the spells of wizards and witches. The age of chivalry is not gone.¹⁰ (Page 113)

Thus, Potter protested the views of his former tutor, Benjamin Rush.

Potter, to prove his conviction went to the extremes of soaking towels in the "perspirable" matter of a patient with yellow fever whom he attended on 20 September 1797. He bound it about his head, retired and reported that in spite of "extreme nauseous fetor" he experienced transient sickness but slept until 7 o'clock a.m. There was no later incapacitation. In 1798, Potter inoculated himself with "perspirable matter" from a patient with yellow fever during the last stages. From other malignant cases he took suppurative matter from inguinal buboes

and inoculated himself on 11 October 1798. He experienced only local redness at the inoculating site. Potter's courageous but ill-conceived self-studies really proved nothing since he was either resistant (immune) because of a prior attack of yellow fever or his test patients did not suffer from the disease or had eliminated the virus from their tissue.¹⁰

Potter became the first Professor of Medicine at the University of Maryland, taking the Chair in 1807. His classic monograph on yellow fever in 1818 describes his life experiences and those perceptive observations recorded during outbreaks of yellow fever in Maryland.

The first printed denunciation of the contagion of yellow fever was by Potter's colleague, John Beale Davidge, the founder of the University of Maryland School of Medicine, and its Professor of Anatomy and Dean.



FIG. 3. *John Beale Davidge*. Published his opinion in Federal Gazette of Baltimore on 30 November 1797 that yellow fever was not contagious. First Dean of University of Maryland School of Medicine.

Davidge was a general practitioner and a practical epidemiologist. Experiences at Baltimore's Fells and Locust Points in the harbor area convinced him of the non-contagiousness of yellow fever which he published in the Federal Gazette of Baltimore on 30 November 1797. This communication was reaffirmed, enlarged and embodied in a small monograph, published first in 1798 and reprinted in 1813.¹¹ Potter's and Davidge's clinical descriptions of yellow fever, like other keenly observant clinicians of the colonial era, were remarkably good.

A young University of Pennsylvania medical student deserves recognition. Stubbins Ffirth, like Potter, went to extremes to contradict the contagious concept. Ffirth, during the epidemics of 1802 and 1803 in Philadelphia, deposited black vomit and blood into incisions made on his arms and legs. He administered black vomit to animals and also inhaled the fumes of six ounces of bloody material which he heated over a sand-bath in a small room; the residue he made into pills and swallowed.^{1, 10} (Kelly, page 278; Potter 1819) Failing in this, he inoculated himself with bloody serum, saliva, perspiration, bile and urine and finally concluded that yellow fever was neither infectious or contagious. Ffirth, like Potter, was courageous, reckless and probably immune to yellow fever. Otherwise, he was dealing with patients other than "yellow jack." La Roche, a student of yellow fever,¹ gives distinction to enunciation of the non-contagious concept to Dr. Deveze who arrived in Philadelphia from the West Indies in 1793 to participate in control of the epidemic. These views were published in 1794.^{1, 12}

The timing of the original recorded statements in letters and in publications make the matter of priority of authority unclear. The early writings and studies of Potter and publications by Davidge and Potter from 1793 to 1798 clearly delineate their positive convictions and establishes their priority of authorship for non-contagion. This controversy was to continue throughout the nineteenth century and wait a century for solution. Two graduates of the medical school, Henry Rose Carter (1878) and James Carroll (1891), were later to play major roles in settling the question of lack of contagion and in establishing the transmission by mosquitoes. The convictions and work of Potter and Davidge did suggest important leads.

It is informative to read of the remarkably accurate observations of colonial physicians in Baltimore, Philadelphia and elsewhere who appreciated the seasonal incidence of yellow fever which occurred between the summer and fall equinox and disappeared with the frost. Water which collected in potholes, gutters, cellars or pools about the wharves near the river and shipping were all regarded as evil. Low ground was evil, high ground was good and a sharp wind could expand the attack areas in that direction. Persons who visited infected sites during daytime were spared while a visit to the sick at dusk, between certain hours was often lethal.

Those who had suffered prior attacks were immune. Native negroes from the islands were unlikely to become ill and colonials from the North or immigrants from Europe were at high risk. It is uncanny that Dr. Thomas Drysdale, a physician and quarantine official of Baltimore, informed Rush in a series of letters written in 1794, "Locusts were not more numerous in the reign of Pharaoh, than mosquitoes through the last few months." (Reference made to epidemic summer session.) "Yet, these insects were very rare only a few years past when a far greater portion of Baltimore was a marsh."^{13, 14} The solution of transmission by insects such as a domesticated mosquito was so near but yet so far.

Another Baltimore physician was prophetic in his introductory academic address in 1811 when he predicted a relationship between insects and human illness. John Crawford said:

It is not alone in our fields or our gardens that they commit their ravages, they attack us in our houses, our goods, our



FIG. 4. *John Crawford*. Published a monograph on the possible relationship of insects and human illness in 1811.

furniture, our clothes, our poultry; they devour the grain in our storehouse, they pierce all our woodwork, they do not spare us, even ourselves.¹⁵

Crawford proposed:

I shall then proceed to consider the cause of suffering in the animals that are in the nearest connexion with us, continue my inquiries through all of the animal tribes down to the smallest insect, as far as the means for information have been within my reach. . . . so with men, the plague, yellow and every other fever and every other disease we experience, must be occasioned by eggs inserted without our knowledge into our bodies. (La Roche, R.: *Yellow Fever Considered in its Historical, Pathological, Etiological and Therapeutic Relations*. Philadelphia, 1855)

Napoleon Bonaparte received one of his major defeats on the wings of the white-legged *Aedes aegypti* and its yellow fever virus. In repelling a black rebellion in Santo Domingo in the spring of 1802, about 40,000 French soldiers, sailors, officers and civilians, including his commanding officers and brother-in-law, General Leclerc, died of yellow fever. Napoleon's force did not have the advantage of Theiler's attenuated yellow fever vaccine, which was to come more than a century later. He was stacked against native adversaries solidly immune to yellow fever by virtue of a prior attack. In January of 1803, the impulsive and disgruntled Napoleon renounced Louisiana because the swamps in the Caribbean Island had defeated his Legions. He sold to President Jefferson's two startled emissaries, Livingston and Monroe, the entire area of Louisiana for fifteen million dollars, enough to make all or part of fifteen states.^{16, 17, 18} This land transaction bettered even the slick purchase of Manhattan from the Indians.

Throughout the nineteenth century, outbreaks of yellow fever persisted in developing America, obeyed the summer cycle, ceased with the onset of frost, favored southeastern, southern and Gulf coastal cities and eluded explanation. Cities hardest hit were New York, Philadelphia, Baltimore, Norfolk, Charleston, Memphis, Galveston and New Orleans. The last yellow fever epidemic in the continental United States was in New Orleans in 1905; there were 3,384 cases and 443 deaths, nearly all in the "old town." The sporadic outbreaks which occurred in Baltimore in 1800, 1808, 1819, 1853, 1854 and 1876 began usually at Locust and Fells Points after ships docked from the Indies. Areas of Baltimore west of Jones Falls and on high ground seemed to possess strange powers of safety.

The Golden Microbiological Era initiated by Pasteur and Koch in the 1880's with men like William H. Welch and Theobald Smith in America helped set the stage for solution of the yellow fever puzzle. Fortified with the observed clinical and epidemiological facts, scholarly physicians with roots in Philadelphia and Baltimore, played major roles.

First tribute belongs to Carlos Finlay of Cuba, who graduated from Jefferson Medical College in 1885. As early as 1881, he proposed that the mosquito, *Culex fasciatus*, (now known as *Aedes aegypti*) was a key link in transmission. Unfortunately, he failed to confirm these suspicions. The epoch making contribution of the second yellow fever mission, directed by Walter Reed, is a proud historical achievement. There are several less acknowledged persons, one an unheralded scholarly epidemiologist, and a courageous clinical bacteriologist, who merit recognition. Each is an alumnus of the University of Maryland School of Medicine.

Henry Rose Carter is relatively unknown as a participant in this dramatic story, yet, Reed acknowledged his clue which guided the



FIG. 5. Carlos Finlay of Cuba, proposed in 1881 that mosquitoes transmit yellow fever.



FIG. 6. *Henry Rose Carter* who first proposed in 1898 that an extrinsic period of incubation was necessary before secondary cases of yellow fever occurred after contact with an index case.

Commission to success where Finlay had failed. Carter, born in Caroline County, Virginia, fractured his leg after graduation from the University of Virginia, shifted from an engineering career to medicine, enrolled in 1873 at the University of Maryland Medical School and graduated in 1878, aged 26. He interned at its University Hospital and joined the United States Public Health Service with ultimate assignment to the Marine Quarantine Service; his district embraced several island and ports in the Gulf of Mexico. Skeptically, Carter questioned the one hundred year old explanation that the agent of yellow fever was conveyed by fomites, contaminated by direct contact with the primary case. For twenty years, he recorded his observations of outbreaks of yellow fever aboard ships arriving at ports in the Gulf Islands and noted a pattern aboard ships which left South American ports, such as Rio; one or two primary cases occurred within a day or two of embarkation, an interval of two or three weeks and a cluster of new cases. Clustering was not reported

by crews whose voyages lasted less than two weeks.¹⁹ No yellow fever occurred among baggage inspectors working in the Gulf district who unpacked and inspected baggage from notorious ports, such as Vera Cruz, Havana and Santiago. Quarantine records back through 120 years were checked. In 1897, Carter contracted yellow fever and recovered.

In 1898, two years before the dramatic report of the Reed Commission, Carter investigated household outbreaks of yellow fever in Orwood and Taylor, two small towns in northern Mississippi, and concluded that an "extrinsic incubation period" was required for the human transmission of the agent.²⁰

The following observed event from the text of his original paper is a typical example of how Carter validated the case for an extrinsic incubation period.

Mr. S. W. G. of Orwood, was stricken on August 1, remaining in his household for the duration of his illness. Among eight people visiting him between 6 August and 16 August there were no cases of yellow fever; among 34 people visiting him thereafter, there were 33 cases.

Carter said:

The material leaving the patient must undergo some change in the environment before it is capable of infecting another man. The time required for this change is the time of extrinsic incubation.

Transferred to Havana in 1899, to reorganize its quarantine service, Carter met Reed and his team which began its work in June, 1900. He kept in close touch with Reed and Lazear, who were already familiar with his Mississippi studies through reports which he had sent them.²¹ Reed himself expressed the significance of Carter's work upon the Cuban studies: "You (Carter) must not forget that your work in Mississippi did more to impress me with the importance of an intermediate host than anything else put together."²² Carter had fixed the extrinsic incubation period at 10 to 17 days, the Reed group set it at 9 to 16 days.

Sir Ronald Ross, who incriminated the *Anopheles* mosquito as the vector of malaria, appreciated the significance of Carter's work and recommended him, along with Finlay, for the 1904 Nobel Prize in Medicine.²³ Recognition and honor was bestowed on Reed, Finlay and Lazear but not on Carter or in full measure to the next contributor.

James Carroll, born at Woolwich, England, on June 5, 1855, emigrated to Canada at the age of 15, entered the United States Army and while a soldier in 1886-1887, began the study of Medicine in New York. He transferred to the University of Maryland School of Medicine and



FIG. 7. *Walter Reed*. Leader of the Yellow Fever Commission which incriminated the *Aedes aegypti* mosquito as the vector of yellow fever and showed in volunteers that direct contact with patients' clothing, bedding and discharges did not cause the disease.

received his degree there in 1891. For two years, he undertook postgraduate work in pathology and bacteriology which included training at the Johns Hopkins Hospital. He met Walter Reed in 1893 during assignment to the Army Medical School in Washington. For the next six years, they were associated until 1899, when Surgeon-General Sternberg formed the second Yellow Fever commission with Walter Reed, Director, Carroll, second in command, and Jesse Lazear and Aristides Agramonte as members, who were already in Cuba. Reed and Carroll sailed from New York on June 21, 1900, and reached Havana on the 25th. Dr. Reed returned to the United States on August 4th with Carroll placed in charge of the field work.

Without question, Walter Reed was the dynamic and talented leader



FIG. 8. *James Carroll*. Second in command of the Yellow Fever Commission under Reed. Carroll was the first experimentally induced case of yellow fever by bite of an incubated mosquito.

of this historical drama which incriminated the mosquito. Carroll shouldered a lion's share of the work without which the mission objective may have failed. Based on his strong bacteriologic capability, his initial work with Reed disproved Giuseppe Sanarelli's view that *Bacillus icteroides* caused yellow fever. The small group pursued the mosquito concept which Finlay had failed to confirm. They worked amicably with Finlay throughout their trials. Lazear, the team's entomologist, allowed a suitable incubation in mosquitoes after they had been fed on yellow fever patients. On August 27th, Lazear placed a mosquito upon Carroll which was incubated for 12 days. In four days, Carroll suffered a severe, non-fatal attack. This was the first experimentally infected case in history. The views of all non-contagionists, such as Potter and Davidge, were now confirmed.^{1, 23} The following letter (from the original) written

by Reed to Carroll, now published in full for the first time, described some of the drama of this event.²⁴

Later, Surgeon-General Sternberg commented that "the incubation in the body of the mosquito was probably Reed's idea. And work along that

WAR DEPARTMENT,
SURGEON GENERAL'S OFFICE
WASHINGTON

(over) Sept. 7, 1900
1:15 P.M.

My dear Carroll:

Hip! Hurrah! God
be praised for
the news from Cuba
today - Carroll much
improved - Prognosis
very good! I shall
tell, Sir damned if I don't
get drunk twice!!!

(over) God bless you, my boy.

Affectionately,
Come home so soon as Reed,
You can see your wife & babies —
Did the Mosquito do it?

Simply go out and
get boiling drunk!

Really I can never
recall such a sense
of relief in all my
life, as the news
of your recovery
gives me! And then,
too, would you be-
lieve it? The Typhoid
Report is on its
way to the upper
office!

FIG. 9. Letter, Walter Reed to James Carroll, dated 1:15 p.m., 7 September 1900, on occasion of news of Carroll's recovery.

line caused the first successful case—Carroll's case."²⁵ Tragically, about two weeks after Carroll's recovery, Jesse Lazear died of yellow fever on September 25, 1900. Walter Reed's letter to Carroll on September 26th expresses his grief and also places further responsibility upon Carroll.²⁴

Washington, D. C.
September 26, 1900

My dear Carroll:

Major Kean's cable, telling of poor Lazear's desperate condition, was quickly followed by the one announcing his death—I cannot begin to express my sorrow over this unhappy termination of our colleague's work!

I know that your own distress is just as acute as my own—He was a brave fellow and his loss is one that we can with difficulty fill. I got the General to cable yesterday about securing Lazear's notes which he wrote that he had taken in each case bitten by mosquitoes.—Examine them carefully and keep all.

I will leave here in the morning for New York—and will ask you to meet me with a conveyance at the foot of O'Reilly Street or at the Navy yard dock if you can find out from Quartermaster where passengers will land on the arrival of the Crook, which should be Wednesday, October 3.

If your observations are such as you and Lazear have intimated, we must publish a preliminary note as soon as it can be gotten ready.

Affectionately,
Reed

Lazear was born in Baltimore and after graduation from Columbia University of Physicians and Surgeons in 1892, two years work at Bellevue Hospital, New York, training in Europe, including the Pasteur Institute, Paris, served as Assistant Resident Physician at the Johns Hopkins Hospital from 1895 to 1896.

Carroll continued in charge of the field studies until Reed returned to Cuba, again for a short period from October 3 to October 13 and later from November 8 to February 3, 1901. During this period, Doctor Reed directed the studies in which Pvt. Kissinger developed induced yellow fever after being bitten by several mosquitoes which had been contaminated by feeding on patients 15, 19, and 22 days previously. Also, during this period, the classic work in volunteers was performed which showed



FIG. 10. *Jesse Lazear*. Member of Yellow Fever Commission who conducted studies in mosquitoes fed on yellow fever patients until his tragic death on 25 September 1900.

that clothing, bedding and discharges of yellow fever patients were not infectious.

In the summer of 1901, William H. Welch of the Johns Hopkins University, had suggested to Walter Reed the possibility of filtrability of the infectious agent based on studies of Loeffler and Frosch on foot and mouth disease of cattle.¹ (Page 105)

The use of volunteers for work in Cuba became a sensitive issue because in 1901, Doctor Finlay and his associate, John Guiteras, while conducting vaccine studies in volunteers, independent of the Reed team, encountered two deaths. This alarmed them and the public. Reed, then in Blue Ridge Summit, Pennsylvania, became disturbed by the exaggerated reports which reached him through the press and wrote Carroll, who was busy recruiting volunteers and conducting the clinical screening and

performing the microbiologic and entomologic studies, on 23 August 1901:

You say 'prospects favorable'. And this leads me to strongly advise against further experiments on humans. Our work has been too good to be marred now by a death. As much as I would like to know whether the filtrate will convey the disease, I shall advise against it.

Carroll now was forced to stand alone. It is clear from the available correspondence between Carroll and Reed at this juncture that the Yellow Fever Commission owes the completion of the final stage of its work to Carroll's wisdom and self-reliance.

In all of the inoculation experiments conducted by the mission at Camp Lazear (named for their esteemed compatriot), no fatal cases of yellow fever had occurred. Carroll was convinced of his ability to continue the experiments necessary to complete his work without unjustifiable risk to life.¹ (Page 270) He proceeded to conduct the studies along the proposed plans and wrote Reed on August 22 to keep him informed of his plan to proceed with the filtration experiments.

About a week later, Reed responded on 27 August 1901, in which he reversed his views and advised to limit observations to injection of serum alone without making controls injected with unfiltered blood. Excerpt from letter, Reed to Carroll, 27 August 1901:¹

I wrote you a few days ago advising against further experiments on human beings, in view of these fatal cases. From the tenor of your last letter, however, I see that you have made all preparations to go ahead with the observations as determined by us at Washington, and I hardly know what to say. I will suggest, that inasmuch as the injection of the blood has given us four positive results, you limit your observations to the injection of serum without making controls injected with unfiltered blood.

Sincerely yours,

Walter Reed

Later, after reflection, on 29 August 1901, Reed decided it unwise to interfere with Carroll's plans and cabled:^{1, 24}

Consult Havard.*
the future.

Use your own judgment in

Reed

* Major, Chief Surgeon, U. S. Army

Carroll did complete his study and showed for the first time that the causative agent, present in the serum of yellow fever patients, was capable of passing through a filter which excluded bacteria and that the agent in the blood was heat labile; heated blood from patients was non-infectious for volunteers. After Carroll completed this key work, on 24 October 1901, he answered a reprimand which he had received from the Army Adj. General of Cuba.²⁴

Hospital Las Animas
Havana, Cuba

October 24, 1901

To the
Adjutant General
Headquarters, Dept. of Cuba
Havana, Cuba

Through the Chief Surgeon, Department of Cuba

Sir:

I have the honor to acknowledge the Receipt of Letter dated October 23, 1901 prohibiting any further experimentation among United States troops or civilian employees with yellow fever serum, and conveying the censure of the Department Commander for practicing such experiments upon Privates Hamann and Covington and permitting them to remain with their command 'under no restrictions', and beg to submit the following statement:

Through the courtesy of the Chief Surgeon, Major Valery Havard, I have.....(In the text of his letter Carroll explains that he had received permission to conduct the experimental studies through appropriate channels, that the command was not placed at risk, nor was serious illness anticipated in the volunteers).....

I am glad to be able to report that my work is completed and I have no desire to make any further inoculations. The results are of inestimable value.

Of thirteen persons experimented upon, Hamann and Covington are the only ones in the service of the government.

Very respectfully
Your obedient servant
James Carroll
Contract Surgeon, U.S. Army

Howard Kelly, in his monograph on "Reed and Yellow Fever," says:

All the reports of the Commission bear Doctor Carroll's name as well as that of Doctor Reed, and in reading them we should always bear in mind that, while the experiments were planned by the master mind of the chief, the accuracy with which they were carried out and the care by which all possible precautions were taken to exclude every source of error, are due to Doctor Carroll, quite as much as to Doctor Reed.¹ (Page 266)

William Welch, in reflecting upon Carroll's voluntary act of his illness and his conduct of the accurate and flawless experiments upon which the final conclusions of the Commission were based, remarked of Carroll: "The most heroic of all the members,"^{26, 27} a comment which in no way was meant to detract from the importance of the contributions and sacrifices made by other Commission members and volunteers. In the British Medical Journal of September 8, 1906, an editorial proposed that the Nobel Prize would be "a fitting acknowledgement of the work of these four men (Reed, Carroll, Lazear, Agramonte); it will scarcely be denied by anyone conversant with the facts—."

General William C. Gorgas took his cue from the findings of the Reed Commission and conquered yellow fever first in Havana by isolation of yellow fever patients and eradication of *Aedes aegypti* mosquitoes. Such work made it possible to complete the Panama Canal.

Max Theiler, patiently working at Harvard and the Rockefeller Institute over a series of years, adapted the Asibi strain of yellow fever initially to mouse brains and then to fertile hen eggs. After numerous serial passages, a remarkable biologic event of virus attenuation occurred which Theiler quickly took advantage of in 1937 by developing it into one of the world's most effective vaccines. From 1940 to 1947, the Rockefeller Foundation produced over 28 million doses of 17-D vaccine at a cost of 2.2 cents per dose. The Foundation gave it all away free, to 35 different tropical countries or agencies, including the United States Army and Navy. Theiler received the Nobel Prize in 1951.²⁸

YELLOW FEVER: MID-TWENTIETH CENTURY

Infection, Pathogenesis, Hepatic Pathology

A subcutaneous inoculation of susceptible Rhesus monkeys with 0.1 mouse intracerebral median lethal doses (MICLD₅₀) of the Asibi strain of yellow fever virus is lethal for this animal. At this dose, the average incubation period is 7.5 days with an illness of two days until death. The incubation is dose dependent, i.e., shorter incubation periods occur with higher doses. The pattern of illness is uniform with rapid onset, marked

rise in body temperature which peaks in two days and hypothermia just before death. There is progressive fall of total leukocyte count with premortem rebound and elevated levels of LDH.²⁹

Within 24 to 48 hours after inoculation of yellow fever virus in Rhesus monkeys, hepatocyte glycogen content decreases concurrent with increase of virus titers in blood and viscera. Between 72 and 96 hours, Kupffer cells become acidophilic and necrobiotic followed by nuclear enlargement, margination of chromatin granules, formation of protein containing intranuclear inclusions, disappearance of the Golgi apparatus and depletion of glycogen in hepatocytes.^{29, 30}

This sequence suggests transfer of yellow fever virus from Kupffer cells to hepatocytes. At 72 hours degenerated Kupffer cells, when stained by immunochemical methods, are enlarged with hyaline necrosis involving these cells and hepatocytes. By 96 hours the virus titer reaches its peak. Acidophilic hyaline necrosis of hepatocytes is striking and extrusion of necrotic cells or cytoplasmic fragments produces the Councilman bodies. Focal areas of necrosis are now midzonal in distribution. Hepatic parenchyma is free of inflammatory cells except for a few polymorphonuclear cells. All glycogen and nuclear chromatin have disappeared. There is extensive mitochondrial degeneration.

Between 96 and 120 hours, the reaction is florid with many Councilman bodies, prominent midzonal necrosis and early signs of hepatic degeneration. Numerous amphophilic intranuclear inclusions (Torres bodies) are present with marked cytoplasmic fatty metamorphosis. Virus particles are seldom observed in the liver except in experimental murine yellow fever encephalitis.

Figure 11 is an hepatic section from a human case of yellow fever which shows central lobular cytoplasmic degeneration and sinusoidal Councilman bodies.³⁰

Conceivably, severe or fatal attacks in humans, as in primates results from failure to adapt to the yellow fever virus and the virus arrogates the metabolic machinery of the infected cell for the synthesis of viral protein to such an extent that energy is not available to maintain hepatocellular function. Glycogen depletion, fat accumulation and failure of nucleoprotein synthesis are the hallmarks of metabolic hepatocellular hijacking by yellow fever virus.³⁰

The three hepatic hallmarks of importance are: (1) midzonal necrosis, (2) acidophilic degeneration and (3) fatty acid metamorphosis. Criteria of lesser importance are the inflammatory reaction and preservation of the reticular framework. Two characteristic bodies are of importance, the acidophilic Councilman and the Torres body. The Councilman body differs from the Mallory body of alcoholic hyaline which is consistently intracytoplasmic with distinctive reddish-purple staining and angulated

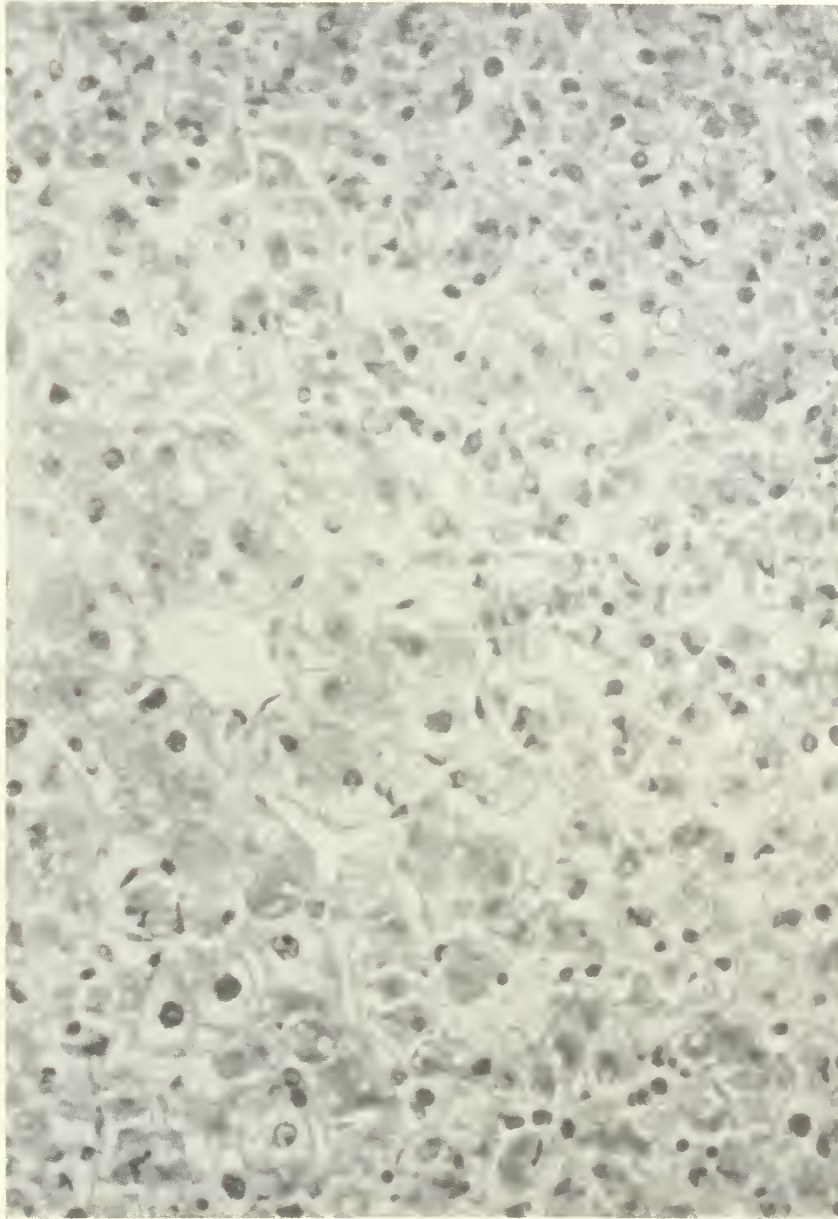


FIG. 11. *Yellow Fever*. Hepatic section of human case of yellow fever showing central lobular cytoplasmic degeneration, sinusoidal Councilman bodies and minimal fatty changes.

dendritic or amoeboid outline.³⁰ The Councilman body originates as an intracellular condensation corresponding to foci of cytoplasmic ribonucleic acid depletion which may stain intensely with eosin and involve the whole cell or only a portion. It is not a virus inclusion body, nor is the Torres body, which is a homogenous amorphous mass within degenerating nuclei of infected cells.

Infiltration of lipid into the cytoplasm is a constant change in yellow fever; the fatty change is multivacuolar or microvacuolar which distinguished it from nutritional cirrhosis.

Clinical Manifestations

The clinical manifestations of yellow fever were well described by colonial physicians.^{7, 10, 31}

Fatal Case: The patient was generally seized with a chill which lasted for an hour or so with bradycardia. This was followed by excessive fever associated with pains in the back and limbs, red, fiery eyes and hot, dry skin. The pulse occasionally exceeded eighty. Patients complained of a constant sick stomach with vomiting. Urinary output was scant with thick brown sediment and albumin. Rush stressed the importance of gastric distress in the 1793 Philadelphia epidemic. Obstinate constipation was usual. After a day, these manifestations abated suggesting recovery, only to be re-doubled in violence in the most malignant cases on the third day with the appearance of vomiting of matter like coffee grounds, cold hands and feet, intermittent pulse, hiccoughs, delirium with convulsions after only 50 to 60 hours. Most patients became yellow before death and almost always postmortem was associated with numerous petechiae. "Black vomit" was not a uniformly fatal sign; approximately one of five died. The case fatality rate ranged from 5 to 60 per cent. Usually the first or "febrile state" lasted for several days, followed by a remission with a fall in temperature and lessening of symptoms only to be followed by the third or "febrile reaction" with aggravation of all symptoms, rapid development of jaundice and onset of "black vomit."

Non-Fatal Case (Case Record of James Carroll):^{24, 32} On the afternoon of 27 August 1900, Doctor Lazear placed a mosquito on Doctor Carroll which had fed on two severe and two mild cases of yellow fever 12, 6, 4 and 2 days previously. After slight premonitory symptoms of fatigue for two days, Doctor Carroll became ill on 31 August with fever and weakness. The blood for malarial parasites was negative. On the evening of the first day, his temperature was 102°F. associated with extreme lassitude, injected eyes and flushed facies. On the following day, the temperature ranged from 102 to 103.4°F., pulse 84. The next day,

September 2, temperature ranged from 103.6 to 103.8°F., pulse 80 and albuminuria which gradually increased during the 5th, 6th and 7th days of illness. Jaundice appeared on September 3rd (4th day of illness). For three days, Doctor Carroll was severely ill marked with delirium. The subsequent course was that of severe yellow fever associated with jaundice until convalescence, marked headache and photophobia, backache and swollen, injected gums. On September 7th, he became afebrile and recovery ensued slowly associated with weakness.

The temperature graph is shown in Figure 12.

Differential Diagnosis

Because of various similarities, such as sudden onset of illness with chills, fever, headache, myalgia, conjunctival injection, hemorrhagic manifestations and a biphasic course, it is difficult to distinguish yellow fever from certain of the arbovirus infections, such as dengue or encephalitis, various hemorrhagic fevers, influenza, hepatitis, leptospirosis and certain rickettsial diseases as epidemic typhus and Rocky Mountain spotted fever. Virus isolation and demonstration of specific serologic reactions are needed to distinguish between them.

Treatment Advocated by Rush and Most Colonial Physicians

Therapeutic concepts of bleeding and purging advocated by Rush influenced therapeutic practices in the colonies. When attended soon

Case I. Yellow fever following, within the usual period of incubation, the bite of an infected mosquito, (Culex fasciatus)

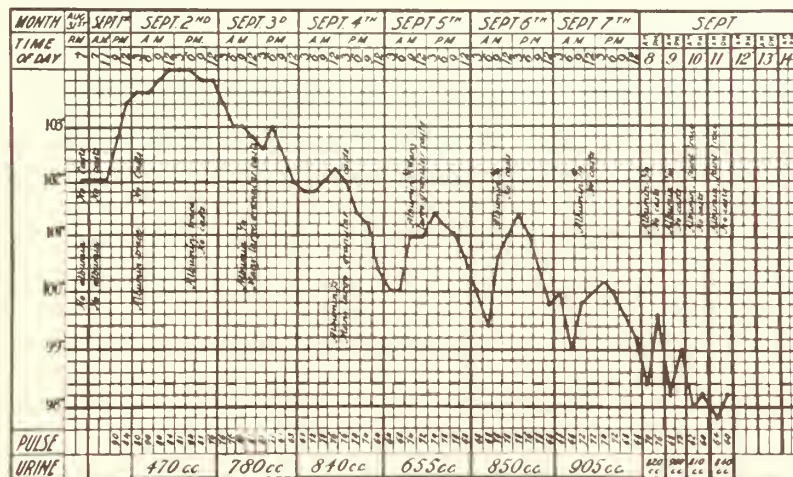


FIG. 12. Yellow Fever. Temperature graph of Dr. James Carroll.

after the first paroxysm, patients were often bled two to four pounds (900 to 1,800 ml., respectively) with a repeat of this evacuation in a few hours when relief was not obtained by the first bleeding. This therapy was said to "bring the patient into a calm and tranquil condition with moist skin and in many cases sink into a placid sleep."⁷ (Page 103) Bleeding was often repeated on subsequent days. Rush carried the practice of venesection to excess. He enumerated 23 patients, each of whom was bled from three to thirteen times, and from each he drew, in all, quantities of blood varying from fifty to one hundred and fifty ounces.³³

Venesection was combined with an internal remedy, such as calomel, given in the proper accepted dose of 10 grains every two or four hours without intermission until the patient was relieved or ptialism occurred. Some were said to have died after salivation occurred. Frequently, gingival or extensive intestinal hemorrhage occurred which was often attributed to neglect of adequate venesection. He carried the administration of mercury to the same extreme, for he states that he gave one patient one hundred and fifty grains of calomel in six days.⁹ Other physicians trebled the dose of calomel (mercurous chloride) up to 300 grains given in several days besides externally applied mercurial (mercury) ointment. The concept was accepted that "violent diseases require violent remedies."⁷ (Page 107)

These regimens were supplemented by emetics, carthartics, such as castor oil, to assist the calomel and production of blisters. Usually, nourishment of any type was forbidden except a cold drink of molasses and water; some prescribed stimuli, such as wine or brandy.

Unfortunately, modern attempts to treat yellow fever have not kept pace with the dramatic successes in preventing the illness by effective immunization.

CURRENT ATTEMPTS TO DEVELOP EFFECTIVE THERAPY FOR YELLOW FEVER

Although human yellow fever is frequently fatal, those patients who survive severe clinical illness experience no residual liver damage. Experimental studies at the United States Army Medical Institute for Infectious Diseases (USAMRIID) are based upon the premise that complete recovery is possible if the host can be sustained throughout the period of severe illness. The paucity of new cases in endemic areas precludes any systematic human therapeutic trial and designates the need for new therapeutic approaches in susceptible laboratory animals. The highly susceptible Rhesus monkey develops a uniformly fatal illness which simulates yellow fever in man.

These therapeutic approaches include: (1) immunotherapy, (2) nutritional replacement during acute illness, and (3) antiviral drug treatment.

These therapeutic attempts are correlated with parallel studies to define the pathophysiologic abnormalities of yellow fever in monkeys. Biochemical, metabolic and hematologic alterations which contribute to the bleeding diathesis are under scrutiny. Electron microscope techniques are utilized to evaluate progression of defects within single cells in relation to localization of yellow fever virus in key tissues.

The highly effective attenuated 17-D strain human yellow fever vaccine consistently protects monkeys against subsequent high-dose challenge with virulent strains of yellow fever virus. This fact made it important to determine if the administration of immune serum could be therapeutically effective after infection of non-immunized Rhesus monkeys with virulent virus.

Passive immunization with high titered monkey antiserum given at the initial stage of yellow fever in primates failed. Cross circulation from a monkey hyperimmunized with 17-D yellow fever vaccine to experimentally infected animals failed to prevent death in recipients. These negative results indicated therapeutic failure by passive immunization.

A second approach involves the use of supportive nutritional therapy. Optimal nutritional supportive care sufficient to supply essential nutrients and metabolites during the period of hepato-renal decompensation was a logical second therapeutic approach. By contrast, some viral illnesses proceed less rapidly and are less severe if the animal host is depleted of key nutrients by prior dietary deprivation. Conceivably, the therapeutic successes of venesection and calomel-induced toxicity claimed by Rush in colonial Philadelphia might have been due to depletion of body nutrients.

This possibility was tested by inoculating susceptible Rhesus monkeys with 1,000 plaque-forming units of virulent Asibi strain yellow fever virus. This dose consistently produces illness within two to four days and death within four to six days. One day after inoculation, a bleeding program comparable to that of Rush (on a milliliter per kilogram basis) was initiated. Ten ml./kg. of blood was withdrawn daily which lowered the hematocrit of a normal monkey by 50 per cent in three days. With the onset of symptoms, calomel was given in doses of one ml./kg. hourly for ten doses. This "Philadelphia" regimen neither shortened or prolonged life when compared with controls. All monkeys died.

Placement of an indwelling venous catheter in a large central vein, such as the superior vena cava, permits the slow infusion of concentrated infusion fluids continuously for prolonged periods. Such intravenous alimentation has been beneficial in patients with severe trauma, burns and other severe illnesses. This therapeutic principle was applied in experimentally infected monkeys with hepatic decompensation induced by yellow fever virus.

In preliminary experiments as USAMRIID, Rhesus monkeys inoculated with 1,000 plaque-forming units of virulent Asibi strain yellow fever virus were treated with continuous intravenous alimentation via an indwelling catheter implanted in the superior vena cava. Monkeys developed characteristic clinical illness and yellow fever virus was repeatedly recovered from the blood. In spite of severe yellow fever, survival time is markedly and consistently prolonged in nutritionally supported monkeys and at least one monkey has recovered entirely. This is a unique achievement since untreated animals invariably die. These promising therapeutic results are being extended.

Another therapeutic approach is yielding encouraging results. Stephen and his colleagues working at USAMRIID³⁴ showed that Poly I:Poly C prevents yellow fever in rodents through its induction and release of interferon. Unfortunately, subhuman primates and man possess a serum enzyme capable of hydrolyzing Poly I:Poly C rapidly and destroying its activity. Levy and Baron, of the National Institutes of Health in Bethesda, Maryland, stabilized Poly I:Poly C with lysine and carboxymethylcellulose and found that the stabilized drug, Poly (ICCL), resisted enzymatic degradation. These two groups working collaboratively have shown that Poly (ICCL) prevents lethal yellow fever virus infections in Rhesus monkeys. Monkeys given 3 mg./kg. of Poly (ICCL) intravenously 8 hours before or 8 hours after inoculation with 1,000 plaque-forming units of virulent Asibi virus survived the infection and developed neutralizing antibodies against the virus. Treated animals developed illness and viremia which was lower in titer when compared with untreated controls. They were subsequently fully resistant on virus rechallenge tests. These preliminary chemotherapeutic results offer promising leads for treatment of this serious virus infection up to 24 hours after infection. Chemical prophylaxis of yellow fever in primates is a unique finding.

SUMMARY

Those strategic points which influence this amateur historian to declare a victory for Baltimore and Maryland over Philadelphia are:

- I. Based upon clinical and epidemiological data, two Marylanders, Potter and Davidge, were among the first to contest Rush and his contagion theory; they told him so and published their views. To prove this point, Potter went to the extreme of inoculating himself with presumed infected material. Stubbins Ffirth, a young University of Pennsylvania medical student, did the same four years later. To Rush's credit was ultimate abandonment of his originally held views.

- II. John Crawford, of Baltimore, although not the originator of the

insect concept of transmission of infectious agents, published his concepts in 1811.

III. Henry Rose Carter, a Maryland graduate, clearly delineated, in 1898, that after identification of an index case of yellow fever an extrinsic incubation period was necessary before the evolution of secondary cases.

IV. James Carroll, another University of Maryland graduate, who worked as Deputy under Walter Reed with Lazear and Agramonte, helped prove Finlay's original concept that the *Aedes aegypti* mosquito was the natural vector of yellow fever. Carroll himself was the first experimentally induced case.

V. Studies in primates provide new approaches for management of yellow fever. Nutritional support and treatment with specific anti-viral agents may be useful for therapy of human yellow fever.

Maryland members of the Climatological are mindful of Philadelphia's rich medical heritage and of the many battles won in the City of Brotherly Love. Physicians in colonial and early America experienced

The best and worst of times, theirs was an age of foolishness
and belief, of incredulity and light, of darkness, despair and
hope.

This tale of two cities ends in peace.

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CURRICULUM IN MEDICINE 1844–1863

Faculty Members: Elisha Bartlett, William Power, Samuel Chew, Robley Dunglison, George W. Miltenberger, Samuel Baker, Charles Frick, and others

Advent of the Clinical Clerkship Teaching Method and Correlative Medicine: Discard of Theoretical and Hypothetical Concepts

Following Potter's death in 1843, Joseph Roby served as acting chairman with William Power and Samuel Chew given responsibility for the course of instruction for students. Already Potter had initiated some bedside demonstrations for students using patients in the Infirmary. Power began the teaching of auscultation and percussion as aids to clinical diagnosis which Potter never really accepted; he referred to the stethoscope as a "conjuring horn."¹

Under sponsorship of Potter and Nathan Smith in Surgery, the Prospectus of the Faculty of Physic for 1840 stated that "the Professors of Theory and Practice of Medicine and Surgery, will give daily clinical instruction in the Baltimore Infirmary where every variety of disease may be found in turn and where the students by the bedside may watch the daily progress of every interesting case."

Into this setting in 1844 Professor Elisha Bartlett, of Transylvania University, Kentucky, was elected to the Chair of Practice. Bartlett had held chairs in several of the leading schools of the United States and was regarded as a most distinguished writer, scholar and lecturer. Osler, in his Address to the Rhode Island Medical Society on December 7, 1899, clearly described Bartlett as one of the most distinguished teachers, philosophers and authors of the day.²

In the Annual Circular of the Faculty of Physic of the University of Maryland of 1844, Bartlett, in his account of the Department of Theory and Practice, stated that the course would comprise almost entirely of the natural history, the diagnosis and management of individual diseases and stated:

Hypothetical speculations both ancient and modern, which under the specious and captivating but false guises of *Medical Doctrines and Medical Theories*, have generally occupied, and still occupy so large a space in this department of instruction—wasting the time and perverting the minds of

the pupils—will be wholly discarded; and the great object of the teacher will be to impart to the members of his class such knowledge as will be available to them in the daily discharge of their professional duties. He will endeavor to teach them, not his own particular views, or speculations, or opinions, nor those of a few other ingenious and fanciful men, but the science and art of special pathology and therapeutics, or of practical medicine, as it actually exists,—the aggregate result of the labors and achievements of past ages and of the present time; and throughout his whole course of practical instruction, he will constantly strive to imbue the minds of his pupils with the principle of a sound medical philosophy.

Bartlett clearly wished to cast aside the theoretical doctrines and didactic methods of Potter, his predecessor. As will be described later, Bartlett had studied in France with the leading men of the day and was an accomplished scholar. In Paris, he, like his contemporary and friend, Oliver Wendell Holmes, acquired three principles which he followed through life: "Not to take authority when I can have facts; not to guess when I can know; not to think a man must take physic because he is sick."³

With Bartlett at Maryland were Power and Chew, each of whom had studied in Paris; each knew the value and importance of making claims only after the numerical method was applied based on painstaking study of all phenomena of disease as determined from study on the medical wards and in the death-house (postmortem). In Paris, Pierre Louis more than the brilliant Rene Laennec had applied these methods in the study of phthisis and fevers which had a remarkable influence upon many young men of the day, particularly Americans who studied there.

The 1844 Prospectus (catalog) continued:

In order to facilitate the acquisition of a practical knowledge of the physical signs of disease—so essential to accurate and positive diagnosis—he (instructor) will meet the members of

his class, in small clubs, near the commencement of the term, and in this way endeavor to give to each of them, individually, such demonstrative instruction as may be necessary, in order to enable them subsequently to prepare themselves for the profitable use of auscultation and percussion (Power initiated these techniques in 1841). The facilities for clinical instruction furnished by the hospital department will enable him very early to accomplish this, and will permit him, he trusts, to exhibit to the class during the course of the term, cases of all of the important diseases of ordinary occurrence and a great many of the more rare modifications. The regular clinical instruction there given by the bedside will constitute a very important and interesting part of the course.

Perhaps, for the first time in America, the clinical bedside method of instruction, stressed and taught so well by William Osler many years later, began at Maryland in the Baltimore Infirmary (later the University of Maryland Hospital). A program for senior medical students in residence, with patient assignments, began in 1823. Beginning in 1841, but consummated officially in 1844 under Bartlett, was the debut of instruction in physical diagnosis and a modified clinical clerkship in medicine. The concept of a preceptor program between instructor and student was initiated. Thus, Bartlett and his strong young faculty began a technique of bedside instruction which prevails now and is the embodiment of clinical teaching in the late twentieth century. (*Correlative Teaching of the Basic and Clinical Disciplines* [Beginnings of Pathologic-Physiology])

Before presenting the biography of Elisha Bartlett, it is appropriate to describe here the correlation of other disciplines into the clinical instruction of students which provided them a comprehensive curriculum. Professor Samuel Chew was Chairman of the Department of Therapeutics, Materia Medica and Hygiene. Chew's approach was in a great sense a correlative concept. He taught by lecture and by practical instruction in the Infirmary. A discussion of the pathology or of the known nature of diseases and of the therapeutic employment of remedies constituted the most extensive and important portion of his course (catalog 1844). Students learned of the natural history of thera-

peutic agents, their chemical composition and their commercial history. Effects of drugs upon the healthy living system, the known mode of action and their effects upon the various known diseases were described. Particularly important to Chew was the need to correlate knowledge between disciplines and he stated:

Care is used throughout to compare and harmonize the established facts of clinical observation with the conclusions legitimately derived from physiology and pathology; and the necessity is inculcated of avoiding the opposite errors of diagnostic attachment to theoretic reasoning on the one hand, and blind submission to imperfect and mistaken experience on the other.

Here, also, Chew was separating himself from the long era of theory and speculation promulgated by Potter. Unwittingly, but wisely, Chew taught pathologic-physiology and correlative medicine decades before such terms were coined.

Of additional interest was Chew's approach to illness and presentation of knowledge to medical students with respect to climatic and other factors. "The course concludes with an account of the effects of climate, and of the peculiarities with regard to health and disease which arise from difference of sex, and which occur at different periods of life." The American Clinical and Climatological Association was not founded until 1884, much later than Samuel Chew's death in 1863. Yet, he and many other astute clinicians of the era were convinced of the relationships of illness, environmental conditions and other factors.

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Prof. Robley Dunglison
Materia Medica - Hygiene



Prof. Francis T. Miles
Neurology



Prof. George W. Miltenberger
Obstetrics - Clinical Medicine

ELISHA BARTLETT 1844–1846

Clinician, Scholar, Politician, Philosopher
Second Professor of the Theory and Practice of Medicine
Author of First Major Treatise on Febrile Illnesses

This biography is reprinted from the Spring 1979 Bulletin.

Elisha Bartlett was born on October 6, 1804, at Smithfield, Rhode Island, son of Otis and Waite Bartlett, who were highly respected members of the Society of Friends. His early education was under the auspices of this Society and soon he acquired all of the unostentatious virtues which characterized that sect. Elisha obtained a most finished classical education under Jacob Willett, a celebrated teacher of the "Friends Institution" in New York. Subsequently, he attended medical lectures in Boston and Providence and graduated as M.D. at Brown University, Providence, in 1826. This was a year before Brown closed its doors as a medical school.

Soon after graduation, Bartlett spent a year pursuing medical studies under distinguished professors in Paris, France, and in classical Italy. It is clear from his biographies of leading French clinicians and surgeons that Bartlett was broadly informed, a critical scholar and one whose writings were objectively constructive and perceptive. Particularly remarkable were his descriptive and interpretative sketches of Dupuytren and Broussais. In 1828, he was offered the Chair of Anatomy in the medical school of Woodstock, Vermont, an honor that he declined. He did present a series of lectures at this medical school for a number of years, particularly during summer sessions. (See Figure 1.)

In 1827, at the age of twenty-three, he settled at Lowell, which became his home for about two decades. Here he established a medical practice and became the town favorite, principally because of deep interest in the physical welfare of the townsmen. (Osler) In 1836, because of his wide popularity and scholarly attitudes, he was elected as

the first Mayor of Lowell, re-elected at the end of his first term and, afterwards, in 1840, honored by election to the legislature of Massachusetts. He was a member of the Massachusetts Board of Education. A *statesman* and not a *politician*, Bartlett soon abandoned political life for the more congenial one of a medical teacher.



Figure 1. Original site of Vermont Medical College, Woodstock, Vermont.

Bartlett held professorships in various branches in medical schools in the north, west and east, nine in all, according to Professor William Osler, who wrote a sketch of him. In 1832, Bartlett held his first teaching position, that of Professor of Pathological Anatomy and of Materia Medica in the Berkshire Medical Institute in Pittsfield, Massachusetts. This chair was held for eight sessions. It was possible to teach in several medical schools in any one year because curricula in all schools were short. More than likely, Bartlett lectured both at Woodstock and Pittsfield by arranging schedules that did not conflict.

Bartlett then held a Chair of Practice for one year in the Medical Department of Dartmouth College, Hanover, New Hampshire. In 1841, he was called to the Chair of Theory and Practice of Medicine in the Medical Department of Transylvania University, Kentucky, which he occupied for three years with considerable success. His instruction was highly appreciated by his colleagues and most acceptable to students.

An item of interest is a comment Bartlett made of Nathan R. Smith in a letter following a visit he made to Baltimore in September, 1841.

Day before yesterday, I spent with Dr. Nathan R. Smith, at Baltimore, on my return from Washington. I found him very attentive and hospitable. He took me into his gig and went to see some of his patients. He has a pretty large surgical practice, and is, I should think, a man of excellent sound sense, industrious and devoted to his profession—not so great a man as his father, but a very capital good fellow. (Letter to his friend, Green, of September, 1841. Cited by W. Osler: *Elisha Bartlett, A Rhode Island Philosopher*, in *An Alabama Student and Other Biographical Essays*, Oxford University Press, London 1908, p. 120)

Undoubtedly, this pleasant encounter had much to do with Bartlett's invitation to assume the Chair of Theory and Practice after Potter's death. Nathan Smith was Dean of the Medical Faculty in 1841, when Bartlett first visited at Maryland. In 1844, Bartlett accepted a call to the Chair of the Theory and Practice of Medicine at the University of Maryland School of Medicine in Baltimore, a chair that he held from 1844 to 1846.

Of interest was Bartlett's failure to mention Potter in any of his medical writings, particularly the treatise on fevers in which Bartlett condemned Rush for his concepts of contagiousness of yellow fever as well as his excessive use of calomel. Potter was the first to disagree with Rush on contagion as early as 1793. Apparently, Bartlett's views of Potter were influenced by his predecessor's hypothetical and theoretical concepts of medicine and his failure to accept changes in either teaching concepts or medical practice.

Bartlett's appointment to the Chair of Medicine at Maryland was propitious. In spite of a short tenure of three or four curricular sessions during 1844 and 1845, he was eminently successful in inculcating a desire in students for factual knowledge rather than hypothetical concepts. In this he had full collaboration and assistance of younger faculty members who had preceded him in Baltimore but who needed his scholarly leadership. During his stay in Baltimore, his publication, *An Essay on The Philosophy of Medical Science*, appeared and presumably he was

at work on his second edition of the monograph on fevers which was brought out in 1847. The latter contained much additional material to the first edition of 1842 which bore a different title.

A teacher and clinical scholar of Elisha Bartlett's caliber could not help but spark students, who were eager to become the finest of clinically oriented physicians, as well as the faculty which wished to regain its leadership role in medical education.

Bartlett's friend, Elisha Huntington, wrote glowingly of his role as a professor, a character that he undoubtedly displayed when he was at Maryland. Huntington said:

Never was the professor's chair more gracefully filled than by Dr. Bartlett. His urbane and courteous manners, his nature and simple eloquence, the singular beauty and sweetness of his style, all combined to render him one of the most popular and attractive of lecturers. The driest and most barren subject under his touch became instinct with life and interest, and the path in which the traveler looked to meet with briars and weeds only, he was surprised and delighted to find strewn with flowers beautiful and fragrant. There was a magic about the man you could not resist (op. cit., p. 126).



Figure 2. Elisha Bartlett, M.D., Professor of Theory and Practice of Medicine, 1844-1846.

These special and unique traits as a stimulating and persuasive teacher were undoubtedly responsible for the demands placed upon him by many medical schools which made him the leading peripatetic professor of the day.

In May of 1845, with his wife, he sailed for Europe and spent the next winter traveling about, chiefly in Italy. On his return from Europe, he resumed his old chair in Transylvania Medical College at Lexington, Kentucky, teaching for another three years. Here he worked hard on the second edition of his book on fevers. From Lexington, he went to Louisville in March 1849, to deliver a course of medical lectures in the medical school. Apparently, at this time, Bartlett began to manifest signs of ill health. He spent but one session at Louisville since he found the condition of medical politics unsatisfactory. Bartlett also gave summer lectures at Woodstock, Vermont, and other places.

Bartlett then accepted the Chair of the Institutes and Practice of Medicine at the University of New York in 1850, a post which he did not find congenial. It is of interest that one of his associates at this university was Granville Sharp Pattison, former Professor of Anatomy, celebrated surgeon and duelist at Maryland. In 1852, he was elected to the Chair of Materia Medica and Medical Jurisprudence at the College of Physicians and Surgeons of New York where he continued for three years, lecturing until 1854. Bartlett had the rare congenital malformation of complete transposition of the viscera which, in no way, constituted a handicap for him. Compelled by failing health, he retired from his position to live in Smithfield, his original home. After a long and lingering illness characterized by paralysis but retention of his mental faculties, he died on July 19, 1855. His partial paralysis of the lower extremities with torturing neuralgia and final softening of the brain was thought by him to have resulted from lead poisoning contracted through the use of water that had passed through lead pipes for a considerable distance. Most biographers have agreed that Bartlett's slowly progressive, disabling illness was a neurological disorder and nothing suggested that his disease was of developmental origin related to his situs transversus. Bartlett was buried at Smithfield where he spent his happy youth and waning years.

Bartlett was one of those American physicians who had trained in Paris and learned the value of statistical evidence, largely from Louis, who reacted strongly against the widespread belief in medical systems. Opposition was expressed against the use of a drug which was supported and dependent upon theoretical speculations. Conceivably, Bartlett's infirmity may have come from his Parisian experience. Bartlett, when Professor of Medicine at the University of Maryland, along with T. D. Mitchell of Tran-

sylvania University (T. D. Mitchell: Calomel Considered as a Poison. *New Orleans Med. Surg. J.* 1:28, 1844-45), wrote of calomel in his famous essays:

It is constantly administered—on all occasions—in all diseases—and in all their stages. It had, literally, in some instances, been made an article of daily food—sprinkled upon buttered bread and mixed with it before baking! I suppose it is no exaggeration to say, that there is more calomel consumed in the valley of the Mississippi and its tributaries than in all the world beside. (Elisha Bartlett, *An Essay on the Philosophy of Medical Science*, Philadelphia, Lea and Blanchard, 1844, p. 238)



Figure 3. Residence of Elisha Bartlett, Slatersville, Rhode Island.

The beautiful and sterling traits of the character of Doctor Bartlett were most happily portrayed by the distinguished medical professor and poet, Oliver Wendell Holmes, in the *Boston Medical and Surgical Journal*, August 16, 1855, from which a few fitting extracts are highlighted:

Hardly any American physician was more widely known to his countrymen, or more favorably considered abroad, where his writings had carried his name. His personal graces were known to a less extensive circle of admiring friends. . . . To them it is easy to recall his ever-welcome and gracious presence. On his expanded forehead no one could fail to trace the impress of a large and calm intelligence. . . . A man so full of life will rarely be found so gentle and quiet in all his ways. . . . The same qualities which fitted him for a public speaker naturally gave him signal success as a teacher. Had he possessed nothing but his clearness and eloquence of language and elocution, he could hardly have failed to find a popular welcome. . . . He had a manner at once impressive and pleasing, a lucid order which kept the attention and intelligence of the slowest hearer, and attractions of a personal character

always esteemed and beloved by students. . . . Yet few suspected him of giving utterance in rhythmical shape to his thoughts or feelings. It was only when his failing limbs could bear him no longer, as conscious existence slowly retreated from his palsied nerves, that he revealed himself freely in truest and tenderest form of expression. We knew he was dying by slow degrees, and we heard from him from time to time, or saw him always serene and always hopeful while hope could have a place in his earthly future . . . when to the friends he loved there came, as a farewell gift, . . . a little book with a few songs in it—songs with his whole warm heart in them—they knew that his hour was come, and their tears fell fast as they read the loving thoughts that he had clothed in words of beauty and melody.

Among the memorials of departed friendships we treasure the little book of 'songs' entitled *Simple Settings in Verse for Six Portraits from Mr. Dickens' Gallery*, Boston, 1855—his last present, as it was his production.

Another friend, Dr. Alonzo Clark, of New York, wrote of him:

His acknowledged worthiness, his innate gentleness and modesty, disarmed envy. He left no enemies. His mind and purpose were pure almost beyond example. His high mental endowments were controlled and directed by a considerable judgement and an earnest, benevolent heart.



Figure 4. The grave of Elisha Bartlett in Slater Family plot, Slatersville, Rhode Island, is marked by a broken headstone.

Doctor Bartlett took part in journalistic ventures in early life, but his most famous work was that on fevers which went through four editions and which immediately placed him in the front ranks of American physicians of his time. The book was entitled

The History, Diagnosis and Treatment of Typhoid and Typhus Fever and was published by Lea and Blanchard, Philadelphia, 1842. This was the first worthwhile, systematic discussion of typhus with minute analysis of symptoms. For example, he quite correctly described the rash which "varied from the second to the thirteenth day. . . ." but in more than half the entire number, it appeared on the fifth or sixth day; and in three-fourths, it appeared from the fourth to the seventh day. In forty-eight cases, the eruption began to decline at different periods, from the eighth to the nineteenth day. (p. 209) He noted the absence of anything specific from careful descriptions of postmortem lesions. Earlier, in 1836, William Gerhard had stressed the absence of lesions of the Peyer's patch in typhus patients. Bartlett was only able to speculate on the contagiousness of typhus and felt certain that the poison of typhus might be generated by "the crowding together in close unventilated apartments, amidst accumulations of personal filth of the wretched and suffering poor." (A. Bloomfield: *A Bibliography of Internal Medicine. Communicable Diseases*, Univ. College Press, 1958, p. 236) Proof of transmission of the causative rickettsia by the body louse was made by Nicolle in 1909.

Bartlett's book contained the first complete account of typhoid fever in the English language. The section is a masterpiece of clinical writing and includes a careful analysis of current concepts with rational conclusions. Bartlett accepted the contagion concept of typhoid and acknowledged that the cause was unknown but the disease itself specific. He concluded, "Which disease, thus characterized and defined, differs essentially from all others, in its course, in its symptoms, in its lesions; and is, in the present state of our knowledge, only to a limited extent under the influence of control of art." (p. 180) Again, it needs to be acknowledged that Gerhard clearly distinguished between typhus and typhoid in 1836.

An Essay on the Philosophy of Medicine, published in 1844, was the most characteristic of his literary style and remarkable insight. In this excellent article, Bartlett wrote: "In this progress of medical science, which we thus confidently anticipate, some of its branches will take precedence of others. Diagnosis for instance, will be in advance of therapeutics; and this for two reasons. In the first place, the elements of the former are fewer, and less complex in their relations than those of the latter; and in the second place, diagnosis is an essential prerequisite of therapeutics." "Science," Bartlett said, "consists of ascertained facts obtained only by observation and experience which are then generalized into law and principles." (Bartlett, E.: *An Essay on the Philosophy of Medical Science*, Philadelphia, Lea and

Blanchard, 1844, pp. 282-285) Bartlett held that "the morbid conditions may absolutely have no therapeutic or curative relationships. Some of the chronic diseases, for example, consumption, may be controlled because the causes of many of these diseases are obviously to be found in the violations of the known conditions of health. We, therefore, have the power of avoiding the afflictions." Here, he was fully cognizant of the relationship of environmental factors and human illness. This work, with its perceptive insight which pertains today, was published when Bartlett held the Chair of Theory and Practice at Maryland. Other lesser works were: *An Inquiry Into the Degree of Certainty of Medicine, and Into the Nature and Extent of its Power Over Disease, The History, Diagnosis and Treatment of Edematous Laryngitis*, and his occasional addresses, in which Osler thinks he was at his best. He wrote in a remarkably clear and polished style. One of Bartlett's early journalistic ventures failed. Bartlett intended to publish a journal primarily for the medical student, a novel concept conceived to interest the student in the humanistic aspects of the profession. Only three issues appeared and the reason for the premature cessation of the series is unclear. Osler stated later that Bartlett "had the good sense after three numbers to give up a publication which the profession did not sustain." (Beck, Irving A.: *An Early American Journal Keyed to Medical Students: A Pioneer Contribution of Elisha Bartlett*. *Bull. Hist. of Medicine*, 40:124-134, 1966.)

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WILLIAM POWER 1846-1852

Third Departmental Chairman; Professor of Theory and Practice of Medicine; Pioneer Clinician Who Introduced Techniques of Auscultation, Percussion and Practical Bedside Teaching of Clinical Examination to Baltimore

This biography is reprinted from the Summer 1979 Bulletin.

William Power was born in Baltimore in 1813. After early schooling in Baltimore, he received his A.B. degree from Yale in 1832, and later was awarded an A.M. degree. Beginning in 1833, he was tutored in medicine by Dr. John Buckler of Baltimore and in the fall of that year enrolled at the University of Maryland School of Medicine. During 1834, he was a student physician at the Almshouse, and in 1835 he received his M.D. degree. From 1835 to 1840, Power, like many American physicians who later became leaders in medicine, studied in Paris. Here he trained under a brilliant cadre of teachers which included Chomel, Andral, Rostan, Grisolle, Barth, Ricord, the great pathologist, Cruveilhier, and Pierre Louis, upon whom he made a lasting impression. Paris was then the seat of medical scientific advances where Power was ardent and enthusiastic in his quest of knowledge. He was constant and unwearied in attendance at Parisian hospitals, kept laborious records of his observations and engaged in discriminating discussions with fellow American visitors. Simultaneously, he learned from the teaching of these early French masters. Evenings were spent in diligent study. Here, under guidance of Louis, he developed the capacity for systematic study of disease which was later to fit him for professional duties as a teacher to students in Baltimore. Presumably, Power contracted tuberculosis in Paris during his hard years of intensive clinical study since tuberculosis was so prevalent. As early as 1837, while in Switzerland, he was subject to paroxysms of severe dyspnea with palpitation and hemoptysis.

In 1840, Power returned to Baltimore where he was appointed Resident Physician at the Almshouse and in nine months became Visiting Physician. In keeping with political partisanship and customs which now typify the twentieth century, with an administrative change in direction of the Almshouse, Doctor Power was removed from office. In 1841, he was reinstated and served as Attending Physician

there in 1841-42 and 1844-45. During this period, the Baltimore Infirmary (University Hospital), which opened in 1823, was used by Potter in medicine, Pattison and Nathan Smith in surgery, and other faculty members for their hospital practice. Rounding by students was optional and for a while student interest was poor. Power was appointed Lecturer in Physical Diagnosis at the University of Maryland School of Medicine in 1841 and 1842, where he initiated at the Infirmary two courses of lectures and practical demonstrations on physical examination of the chest. These were the first lecture-demonstrations of this type at the University and soon student interest increased so much that advanced booking was required as early as a year in advance. It was noted in the Prospectus for 1841-42 that "the six months course proved to be so successful, last term, that the arrangement is made permanent with compulsory attendance of four months required."

"The Marine Hospital having restored to the Infirmary of the University, and that institution present-



Figure 1. University of Maryland Hospital (Baltimore Infirmary) about 1830. Painted by Paul Vicino.



Figure 2. William Power, age 20. From miniature portrait, Medical and Chirurgical Faculty of Maryland, Baltimore.

ing also many interesting cases from among our citizens, the means of clinical illustration will be ample."

William Power was never robust and was plagued with illness throughout much of his life. In 1843, his health became precarious which forced him to cease his duties as a clinical teacher and lecturer. He went for rest to Cuba where his health improved, and in 1844 Power returned to Baltimore and resumed his academic pursuits. In 1845, he was appointed Lecturer in the Theory and Practice of Medicine and in 1846, at the age of 33, on the res-



Figure 3. Laennec and the Stethoscope. From *A History of Medicine in Pictures* by George Bender; painting by Robert A. Thom. Courtesy Parke-Davis Division, Warner-Lambert Company ©1960.

ignation of Professor Bartlett, was appointed to full Professor and Chairman, the first alumnus of the school to occupy the Chair.

Professor Power devoted his life fully to the teaching of medical students and to the study of medicine. His stimulating effect upon students was demonstrated by the enthusiasm with which they attended his lectures and teaching rounds. As a lecturer, Power did not aim at originality but rather to teach that which was known and true. He presented a calm and unbiased account of the opinion of others which was corrected and modified by his own experiences. Cunningly devised theories and fiction were foreign to him. His approach to medicine was thoroughly earnest and truthful and he never failed to admit error. Power excelled as a teacher of clinical medicine who inculcated the quality of thoroughness to students and physicians. University of Maryland medical students have always been known for their clinical skills and it is to William Power that tribute is paid for serving as an example and for ensuring the acquisition of such firm clinical foundations which mark any competent physician.

Although not an extensive contributor to the medical literature, Power's strength was in his stimulus to others who became leaders in medicine in Baltimore and elsewhere. Charles Frick was one of Power's most illustrious pupils who later made notable contributions by initiating clinical investigation at the school. There was another close bond between them since Power was Frick's brother-in-law. Professor Power's contribution to the medical literature dealt with topics of current clinical interest and on medical education. (See Bibliography of William Power.)

René Laennec, who paid great tribute to Auenbrugger, the inventor of the technique of percussion, introduced the stethoscope to the medical profession in 1819. The first organized instruction in auscultation and percussion was given in Baltimore by William Power in 1841. Others in Baltimore, particularly Dr. Frank Donaldson, who died in 1835, were known for their skill in physical diagnosis. Nathaniel Potter, the first Professor of Medicine, belittled the stethoscope and preached against its use.

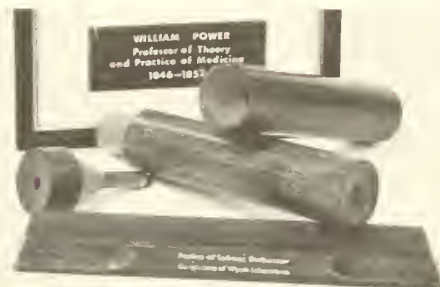


Figure 4. Model of early stethoscope.

No mention is made of the use of the stethoscope or the technique of percussion in the catalogues of the school until 1845. Shown in Figure 4 is a model of the type of stethoscope used initially by Laennec and introduced by Power to Baltimore in 1841.

Professor Power married Elizabeth Frick, elder daughter of Judge William Frick, on October 14, 1847. There is no record of any children. He was never able to recover from tuberculosis and emphysema. In spite of habitual dyspnea and hemoptysis, he met all of his obligations, gave his fullest effort to all endeavors and led a useful and most productive life. Before his coming to the University of Maryland School of Medicine and Infirmary, it was difficult to find candidates for the place of Resident Physician in the Hospital. Power's interest and enthusiastic teaching soon elevated the reputation of the institution so that candidates became numerous and obtained appointment with difficulty.

In his address to the medical alumni of the University on January 22, 1907, Samuel C. Chew, Professor of Medicine (Chew, S.C.: *The Chair of Medicine in the University of Maryland*) recalled his memory of William Power with his "intellectual face sicklied o'er with the palecast of thought." He recounted the story of a Baltimore resident who suffered from chest trouble and consulted with Pierre Louis in Paris. That eminent continental physician, on inquiring in what part of America he resided, answered, "From Baltimore." "Why, then," asked Louis, "do you come all the way to Paris to consult me when you have William Power in Baltimore?"

During the winter of 1851-52, Professor Power was unable to perform his academic duties and on January 5, 1852, he reluctantly resigned his Chair. His physical suffering was so great that he could hardly mount the stairs without panting. Ironically, seven of eight resident students, who in 1844-45 were his assistants, preceded him in death, a sad commentary of the deadly influence of professional pursuits and acquisition of serious illnesses in the mid-nineteenth century. The complete letter of Power to his faculty associates provides the reader a vivid glance of his selfless character.

Baltimore, January 15, 1852

Gentlemen:

The continued impairment of my health and strength makes it doubtful whether even next winter I shall be able to fulfill the duties of my Chair. I therefore hereby tender you my resignation of the professorship of Theory and Practice of Medicine in the University of Maryland. This step, after due deliberation, is taken through a sense of duty to you and to the interests of the school, hut I confess with some natural sorrow and reluctance on my own part. My connection

with the University formed the realization of professional hopes and plans long cherished. To feel secured in a position where I could pursue the profession as an enobling science, not as a necessary trade, where there was a constant stimulus given to self-culture and improvement, to constant fresh study and daily progress in the search after truth, to be entrusted with the responsible and noble mission of interpreting and disseminating this truth; finally, to have the conviction from the friendly and cheering intercourse of colleagues and the respectful demeanor of the class that I had the approbation and confidence of both, and that my efforts to be useful and give satisfaction were not in vain, all this made my situation dear to me. My chair was the ruling interest of my professional life, that in which all my pleasures, hopes and ambition centered, and the determination to resign it involves the virtual and formal adieu to all lingering hope of future usefulness. My whole connection with the school has been to me of the most agreeable character. Nothing has ever occurred to mar for a moment the good understanding between myself and my present colleagues. We have laboured pleasantly and amicably together. We have had the satisfaction of seeing the school, year by year, increasing in her prosperity, her embarrassed finances improved and now placed in the best condition. We have witnessed her facilities for teaching much increased, by the enlargement of the Infirmary and large purchases of materials for demonstrative instruction, the classes steadily growing in numbers, better taught, pleased and satisfied with the opportunities they enjoyed and the tuition they received, and leaving us to give a good report to their alma mater. The whole course of the University has been upward and onward, and with continued harmony and activity on the part of the Faculty there is every reason to anticipate a still more brilliant future. I do most sincerely trust that in appointing my successor your choice may fall upon one who, with more acquirement and talent to fit him for the place, may at least possess equal zeal and devotion to the progress and interests of the school. Though no longer directly connected with it, still so long as life continues I cannot but feel the deepest interest in its policy and progress. In conclusion, allow me to tender to each of you my thanks for many acts of friendship and courtesy during our past intercourse, and to assure you of my sincere wishes and earnest prayers for your individual success, happiness and usefulness.

Wm. Power

57 St. Paul Street.

To the Faculty of Physic of the University of Maryland.



Figure 5. Gravesite of William Power, Greenmount Cemetery, Baltimore.

As late as the month of May 1852, his friend and companion, Alfred Stillé, found Power wasted and wan from the consumption which he suffered but his spirit was clear and bright and he was content without complaint, remorse or resentment of a career cut short. He had great love of music, which was particularly a pleasure and solace to him during his terminal illness.

On August 15, 1852, Professor Power died in Baltimore, a victim of pulmonary tuberculosis in his thirty-ninth year. Ironically, Laennec died of tuberculosis in 1826, at the age of 45.

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Figure 6. Power family headstone.

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SAMUEL CHEW 1852-1863

Classical Scholar, Pioneer in Medical Education Clinical Teacher of Medicine and Therapeutics Fourth Chairman of Department of Medicine

This biography is reprinted from the Fall 1979 Bulletin.

Samuel Chew, a native of Calvert County, Maryland, was born April 29, 1806, a year before the opening of the University of Maryland School of Medicine. His early education was received at Charlotte Hall in St. Mary's County, Maryland. In 1822, he entered Princeton College, where, in 1825, he received the degree of A.B. and, in 1828, the A.M. degree. On leaving Princeton, he began the study of medicine in Baltimore under Dr. William Donaldson, a cultivated gentleman and a prominent physician of unusual skill. In 1826, he entered the School of Medicine at Maryland and, after attending three courses of lectures, received the degree of Doctor of Medicine in 1829. He spent five years in the practice of his profession in his native county and then moved to Baltimore where there were greater professional opportunities for young physicians. From about 1835 to 1841, he was Librarian of the Medical and Chirurgical Faculty. In 1840, in conjunction with Dr. Joshua I. Cohen, he established in Baltimore an Eye and Ear Institute in which he had charge of the department relating to the eye.

In August 1841, on the death of Professor Samuel G. Baker, he was elected to the Chair of Materia Medica and Therapeutics at the University of Maryland, a position which he filled with great credit and satisfaction. Chew filled this chair until 1852 when, with the resignation and death of Professor Power, he was elected to the Chair of Principles and Practice of Medicine. While serving as a faculty member during Power's tenure, he conducted ward walks and lectures to students on medical topics. Professor Chew fulfilled these duties as chairman until his death caused by pneumonia on Christmas Day, 1863.

Scholarly attributes and classical tastes were reflected in Professor Chew's writings and his familiarity with ancient authors permitted him to quote them.

Samuel Chew first made his mark with the Maryland Medical School faculty when he was appointed to the Chair of Therapeutics, Materia Medica and Hygiene in 1841. Materia Medica was an important curricular program and its teaching to students required the background of a physician whose knowledge embraced clinical medicine. The course dealt with the materials of medicine and included general therapeutics, chemical properties and manufacture of drugs, toxic manifestations, dosage and the use of surgical instruments. The Chair was established when the school opened in 1807. Instruction was given in usage of narcotics, tonics, aromatics, astringents, emetics, cathartics, diuretics, methods of venesection, treatment of hemorrhage and methods of surgery. Beginning in the 1830's, Robley Dunglison placed much emphasis upon hygiene and preventive medicine. Samuel Chew was versed in these fields and maintained a well-balanced interest in chemistry; he, and others, refused to embrace the extreme herbalism which hampered American pharmacy in other schools. Chew's curricular course, according to the *Annual Catalogue of 1851-52*, "included a description of the natural history, preparation and mode of exhibition of medicinal agents, and the flaws and conditions under which health may be preserved and disease avoided. The mere enumeration of a number of well-known or obscure drugs, large or small, with the safe or unsafe doses in which they may be given is not looked upon as the end of Materia Medica, but a full history of their mode of production, properties and physiological action with the indications governing their employment. It is an

axiom in medicine that 'no remedy becomes such save by its timely use;' to determine which involves something beyond a routine knowledge of the sensible qualities of a drug, or the amount in which it may be borne. The principles, therefore, which should govern the administration of remedies are carefully unfolded as the only sure guides to attaining their desired effects."

Chew, and others, insisted that the student should be taught to place a right value upon diagnosis, not only as indicating the existence and nature of the disease, but also the quality of the agents which are to be employed in controlling it. He insisted that, after the general features of an illness were established and understood, one should then watch for exceptions. A physician was expected to understand, for example, that all apoplexy does not require blood letting, or all pneumonia, antimony, or all dropsy, squill, or all syphilis, mercury. The doctrine of cure was regarded by him as conclusive for a large number of cases, yet the application of it to an individual case might call for material modifications; to detect the peculiarities which demand these modifications, the practitioner must exercise his own judgment and skill. These were the concepts and teachings which Chew carried over to the Chair of Practice.

Under Professor Chew, the course of Principles and Practice of Medicine and Clinical Medicine included special lectures and clinical visits and lectures at the Infirmary. The lectures were an exposition of the natural history of disease and their treatment. The Baltimore Infirmary (see Figure 1) contained 150 beds and patients with all varieties of acute and chronic disorders were admitted to its wards. The student was exhorted to attend all clinical teaching sessions and no candidate for graduation was admitted to this examination until he produced evidence of his attendance.

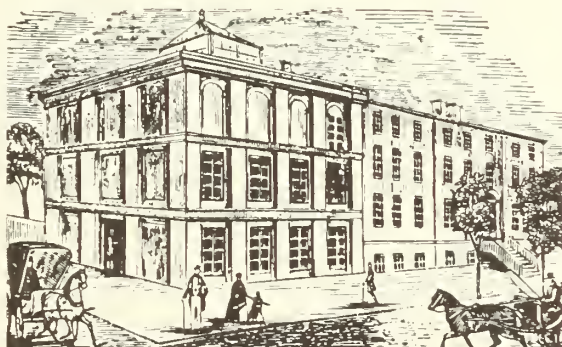


Figure 1. Baltimore Infirmary (University Hospital) showing new addition added in 1852. It provided private rooms, a clinical amphitheatre; the institution had a capacity of 150 beds, the largest hospital in the city.

(Lomas, A.J. As it was in the beginning. A history of the University Hospital. Bull Sch. Med. 23:147, 1939.)



Figure 2. Samuel Chew, A.M., M.D., Professor of Principles and Practice of Medicine 1852-1863.

Senior faculty members were designated as preceptors for medical students. In the catalogue of 1853-54, Professor Chew was listed as having the following preceptees: George F. Adams, William B. Biscoe, Benjamin A. Carr, William W. Childs, William Denny, Thornton Dorsey, George Hammond, George Hayward, David Hutchings, George B. Kelly, Uriah Laveille, John S. Lynch, Charles P. Machenheimer, John Silas Marshall, Hugh Martin, Andrew Jackson Martin, Bernard Mills, Lewis C. Sparrow, William H. Thompson, Jr., E. M. Tingle and George W. Weems. The second largest number of preceptees (18) were those of Professor Nathan R. Smith (the Emperor), Chairman of Surgery. It is of some contemporary interest that two members of the Class of 1853-54 were assigned to Dr. J. M. Finney as preceptor. Doctor Finney's son was J. M. T. Finney, who later made great contributions to surgery in Baltimore at the Johns Hopkins Hospital and Medical School.

Professor Chew delivered his lectures from well-prepared notes which usually were read to whole class groups in Davidge Hall. They were delivered on specific disorders and included discussions of the clinical signs and symptoms, concepts of their cause, complications, known remedies, limitations of therapy, differential diagnostic features, morbid findings and means of prevention as they were known. Lecture notes taken by students have been preserved and one set includes complete notes on malaria, typhoid fever, remittent fever, typhus fever, yellow fever, exanthematous fevers and others. The lectures on typhus and typhoid fever were comprehensive and reveal a remarkable comprehension of these diseases and their complications.

Dignified and reserved in manner, Professor Chew was genial with his friends. According to Cordell, his "life was upright and his sentiments pure and lofty." He was a devout Christian and his manner made him "exceedingly winning and attractive in the sick room." Cordell commented that he never met anyone who failed to speak of Professor Chew with utmost reverence and regard.

Professor Chew was a frequent contributor to the medical literature and he delivered numerous lectures and addresses which were published. One of the best known of his writings was a learned oration delivered on the occasion of the formal opening of the Hall of the Medical and Chirurgical Faculty on Calvert Street, near Saratoga Street, on June 3, 1858. In this speech, Chew discussed the prevalent criticisms which were directed at physicians by the laity and other professional groups for the lethargy and lack of progress being made by the medical profession. Chew spoke very eloquently of the great contributions which had been made in medical knowledge which extended the fields of anatomy, physiology, pathology and the extensive and accurate observations of the effects of remedial agents and their limitations. He did acknowledge the inferior natural abilities of some physicians and their deficiency in background education. Particularly remarkable in this oration was his recount of medicine as it was practiced as an art and as a science spanning the era from ancient Greek physicians to the time when high standards were set by continental physicians. This was a remarkable discourse which would give great satisfaction to any member of the medical profession.

Professor Chew's final published work was a volume of "Lectures on Medical Education" which was intended chiefly for students. This work was unfinished at his death but the series was completed and edited by his son in Philadelphia in 1864.

The high quality and incisive objectivity of these five delightful lectures clearly delineate the depth of Samuel Chew's character. They will be comprehensively summarized because their guiding principles apply so well even a full century after they were presented. Students were reminded that medical practice does not lead to wealth but provides a means of pecuniary independence. Industry and dedication are indispensable and he commented that the wise physician who was industrious would succeed and gain real happiness through service. Good sense, an ordinary degree of integrity, a sense of judgment and the ability to derive conclusions from ideas "received into the mind from without" were the qualities necessary to become a physician. The good doctor must think well and possess careful powers of observation.

Chew considered reading a virtue which demanded careful choice of writings by scholars and

recognized leaders. He regarded it as useless to read incessantly without taking time for contemplation. Students were advised to reread classic articles and to understand them well rather than to scan the breadth of medical literature without understanding anything. High emphasis was placed upon the value of a good lecture and systematic note-taking with inquiry of the preceptor or lecturer after regular sessions. Chew urged "you should not believe, without reason, everything that you hear, and you should not reject, without reason, the instructions of those who have gone before you in science and whom you have chosen as your teachers."

The fourth lecture stressed the need to observe patients in the hospital where the natural history of illness was learned. He spoke of how the viewing of rose spots of typhoid, petechiae of typhus, agitated muscles of delirium tremens or chorea, or hearing the fine crepitation of pneumonia or the "bellows murmur" of endocarditis gives a correct idea of their meaning. Students must see for themselves. Knowledge gained in the clinic or hospital by observation will be remembered better and longer than that acquired from books or lectures; "the eyes have more retentive memory than the ears." Reading and the hearing of lectures are regarded as introductory for students and by them a student is enabled to observe and think for himself. Book doctors must always extend their experience through clinical observation; "You must spend much time among books and much also among the sick." Chew stressed "an essential part of your professional education must be acquired at the bedside by observing, by inquiring, and by reflection." Students were encouraged to observe the techniques of their teachers, their methods of treatment, and then endeavor to make their own observations and diagnoses. Chew admonished, "If you cannot afford time and patience to examine and to think maturely, you should renounce the profession of medicine and seek out some walk of life in which you may succeed without labor and be careless and negligent without incurring the guilt of homicide." Later, William Osler, in his *Aequanimitas* quoted Abernathy: "The hospital is the only proper college in which to rear a true disciple of Aesculpius" and Oliver Wendell Holmes remarked in an introductory lecture given in 1867:

The most important part of a student's instruction is obtained, as I believe, not in the lecture room, but at the bedside, nothing there is lost, the rhythms of disease are learned by frequent repetition; its unforeseen occurrences stamp themselves indelibly on the memory. Before the student is aware of what he has acquired he has learned the aspects and causes and

probable issue of the diseases he has seen with his teacher, and the proper mode of dealing with them, so far as his master knows.

Samuel Chew's teachings antedated those of Holmes and Osler and his written word in the mid-nineteenth century merits a high place for him among enlightened medical educators of that era.

Chew urged that the skillful use of the stethoscope was essential, which contrasted with his predecessor, Nathaniel Potter, who regarded it as "humbug." Rather than devote too much attention to rare and unusual disorders, Chew advised full comprehension of the common diseases. Note-taking and tabulation of clinical data in a record were regarded by him as an essential mark of thoroughness. Also, he recognized the virtue of students to discuss medicine among themselves and with their teachers. He quoted Bacon: "Conference maketh a ready man, reading a full man, and writing an exact man." Discrete selection of associates with whom to discuss problems was advised.

In his final lecture, Chew contrasted the European and American medical schools, pointing out strong and weak features of each. The need for a proper preparatory education was stressed with proper preparatory education in the classics, history and language; "pupils should be scholars before they attempt to become physicians." The current medical collegiate term of four-month sessions each year was held as too brief. With the widely advancing knowledge of medical science, longer terms and another year were required with greater emphasis upon practical anatomy and clinical observation.

In changing any medical school curriculum, Chew remarked that change does not necessarily represent improvement. In making reforms, "wisdom is as fully necessary as energy and dispatch." Curriculum committees of the late twentieth century might profit from this advice. According to Chew: "What schools, even the best schools can do for their pupils is trivial and insignificant in comparison with what pupils can do for themselves if they wish to acquire knowledge, ability and fitness for their profession." The school "furnishes its students the means and opportunity to study disease. There is no royal road to Heaven, or to geometry or to medical science and the schools have no power to construct such a road for their pupils. If one wishes to succeed in science or in art or a profession or for any other excellence or eminence, it is necessary to pay the price and that price is labor, effort, your own labor and not the labor of teachers."

This delightful, stimulating and provocative series of lectures compares very favorably with the essays of William Osler which followed by a half of

century, and they place Samuel Chew among the top medical scholars of his day. The last words which Chew is said to have written were "*Sic itur ad astra*" (Thus shall you go to the stars).

Dr. Chew was Treasurer of the Medical and Chirurgical Faculty, 1838-39; Vice President of the Faculty, 1859-63; and Dean of the School of Medicine from 1842-44. He was co-editor, in 1843, of the *Maryland Medical and Surgical Journal*, the official organ of the Medical and Chirurgical Faculty.

Fortunately for Baltimore and the University of Maryland School of Medicine, his son, Samuel Claggett Chew, emulated his father and made lasting contributions.



Figure 3. Grave marker of Samuel Chew, burial lot 116, area U, in Greenmount Cemetery, Baltimore.

Samuel Chew died of pneumonia at his home on Friday, December 25, 1863. On the next day, the medical students and Faculty of Medicine met separately and resolved to attend the memorial service for him which was held at his residence, 70 North Paca Street at 3:00 p.m., Sunday, December 27. Students, faculty and a large number of friends and former patients attended the service. He was buried in the family plot at Greenmount Cemetery following the service.

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BEGINNINGS OF THE APPLICATION OF THE FUNDAMENTAL SCIENCES TO CLINICAL DIAGNOSIS AND MANAGEMENT

(Advent of Clinical Chemistry and Pharmacology)

The clinical course of instruction consisted of hearing lectures given by various faculty members, particularly the professors. Bartlett, Power and Chew were all recognized for their abilities to properly describe the pertinent clinical manifestations of the prevailing human disorders. Their lectures were often based on personal experiences and included factual knowledge which they considered relevant and not theoretical. Usually the lectures were handwritten and delivered from the podium in Davidge Hall. Students were admitted to lectures by a special card purchased from the professor prior to each series. Each professor made his daily rounds across Lombard Street in the Infirmary where students observed bedside techniques of diagnosis and learned to evaluate results of treatment regimens. William Power was particularly effective in bedside teaching of chest disorders with emphasis upon percussion and auscultation.

Samuel Chew, a scholar with broad knowledge of general medicine, previously held the Chair of Materia Medica and Therapeutics. This enabled him to guide students in their quest to learn of the nature of illnesses and the value and limits of therapy.

Into this setting came Charles Frick, an extremely able, vigorous and promising young man. In the following biographic sketch, it will be seen that Frick was

an innovative clinician with attributes comparable to any twentieth century medical scientist. He advanced knowledge of pathophysiologic mechanisms by relating abnormal chemical findings to manifestations of patients with fevers, hematologic disorders and renal disease. Foundations were laid by him for future investigators who were to qualitatively and quantitatively evaluate organ function and body secretions. Throughout medical history, physicians have attempted to improve supportive care by placing it on a proper scientific base. Charles Frick was one of these innovative contributors.

Tragedy cut Frick's life short, which, conceivably, had an extremely deleterious effect upon the School of Medicine. In time, he would have been the logical successor to Chew as Chairman of the Department of Medicine. Frick would have established lasting programs of chemical and physiologic measurements in the clinical curriculum since he had already inaugurated programs in clinical pharmacology and experimental therapeutics which were the first in America. His untimely death after only two years coupled with the disruptive effects of the Civil War, may have been responsible, in part, for the post-Civil War lethargy in clinical investigation at the school which extended into the twentieth century.

CHARLES FRICK 1858–1860

Professor of Materia Medica and Pioneer in Experimental Pharmacology

Professor Frick, with a wonderful command of plain Saxon English, had few equals as a lecturer. Medical students and physicians of Baltimore attended his lectures because of their originality and practical use.

This biography is reprinted from the Maryland Medical Journal, Vol. 35, No. 7, 1986.

Charles Frick was born in Baltimore on August 8, 1823, the son of the Honorable William F. Frick, distinguished member of the Maryland Bar and Judge of the Superior Court of Baltimore, and a recognized benefactor to the citizens of Maryland. His uncle was Dr. George Frick, a well-known Baltimore eye surgeon and a scholar who lectured in clinical medicine at the University of Maryland School of Medicine. His classical and mathematical education was completed at the Baltimore College. At the age of 16, he selected engineering as a profession and was employed as assistant civil engineer on the Baltimore and Ohio Railroad.

In the spring of 1843, he entered the office of his friend, Dr. Thomas H. Buckler, one of the leading practitioners in Baltimore. In autumn that year, he attended a course of lectures at the University of Maryland Medical School. After the session, he was admitted as a resident pupil to the hospital affiliated to the Baltimore City and County almshouse, where there were about 600 inmates and 200 bed patients. Here, Frick's great interest in his patients included coordination of the bedside manifestations and postmortem findings; he performed autopsy examinations.

In March 1845, Frick received his medical degree from the University of Maryland. His Inaugural Thesis, "Observations on Puerperal Fever," dated January 1, 1845, reviewed the prevailing views of the clinical manifestations to which he added personal observations gleaned from the study of seven patients. Frick spoke positively for the benefits of venesection in patients with puerperal fever. In his thesis, he dispelled any relationship of postpartum infection to erysipelas, which was a prevalent view. Also, he committed himself to study the contagious character of puerperal fever. The faculty referee remarked that Frick's thesis was "a very proper dissertation." Fittingly, he dedicated his thesis to his old mentor, Dr. Thomas Buckler.

In the spring of 1845, soon after graduation, Frick opened an office with his friend, Dr. Stedman R. Tilghman, a surgeon. The association lasted about two years because of the usual difficulties younger physicians experience in establishing a new practice. In 1845, Frick was appointed attending physician to the Maryland Penitentiary, a post he held for seven years. He examined convicts when admitted, weighed them systemati-

cally, made studies of their diets, and attempted to promote their health and welfare.

With Drs. Christopher Johnston, a prominent surgeon and faculty member, David Stewart, a physician-pharmacologist, and Elisha W. Theobald, Frick helped found the Maryland Medical Institute in 1847. This was a preparatory school of medicine stimulated in part by recommendations of the American Medical Association to help elevate educational standards. Frick was in charge of teaching practical medicine, which permitted him to further develop his pedagogic talents.

In October 1853, Charles Frick married Achsah, eldest daughter of Reverend Thomas B. Sargent, a well-known and respected Methodist clergyman, Figure 1.

William Power, whose wife Elizabeth was Charles' sister, was Chairman of the Department of Medicine at



Figure 1. Charles Frick and his wife Achsah, whom he married in 1853.

the Medical School from 1846 to 1852. Power, an astute bedside clinician, and Frick, the experimental clinician, were close friends and brothers-in-law. Undoubtedly, each had considerable influence on the other. Power had studied under Pierre Louis of Paris, where he learned the new technique of auscultation introduced previously by Laennec: From this French master he also learned the value of recording results of thorough examination, systematic analysis of clinical signs, and postmortem findings. Power introduced the teaching and practice of auscultation to Baltimore at the Baltimore Infirmary (University of Maryland Hospital).

Diagnosing and Recording

Influenced by his close relationship with Power and his new pursuits, Frick spent hours on the wards and clinics of the almshouse, going from patient to patient with his stethoscope and marking out the extent of organic involvement of the heart and lungs. Systematically, he ferreted out infiltrative lung lesions, cardiac murmurs, or previously unsuspected aneurysms. Frick perfected the technique of auscultation and was able, with his broad knowledge of disease processes, to form careful diagnostic opinions. These were based on correlation of the subjective symptoms with the physical findings, chemical changes in the blood and urine, and interpretation of the pathologic lesions. Moreover, he carefully recorded his findings. On leaving the almshouse, he had catalogued many clinical data on a variety of disorders and collected a set of anatomical preparations.

Frick, a young man of immense patience and industry and of independent opinion, followed the classic style of observation and experimentation practiced by the early nineteenth century physicians, such as Louis, Courvisart, and Chomel. Frick was described as a born investigator who, in his work, sought to explain how and why diseases occur and to clarify the effects of therapeutic regimens on such disorders. These industrious traits combined with a cheerful, genial, frank, forthright, modest, and unassuming character marked him as a man of great promise.

Frick's investigations embraced measurable pathophysiologic changes in patients with prevailing disorders such as tubercular phthisis, idiopathic fevers, rheumatism, anemia, and renal diseases including stone formation. His first paper in 1846 contained reports of patients with remittent fevers, which he correlated with organic and morbid changes noted in the liver, spleen, and heart. This paper was widely quoted particularly by Bartlett (Second Professor of Medicine at the University of Maryland) in his book on fevers. Most of his publications appeared in the *American Journal of Medical Sciences*.

In his evaluation of chemical changes of the blood, published in 1848, Frick reported analyses of organic and inorganic ingredients focusing on tuberculosis and other disorders. He painstakingly rejected 70 of 150 investigations because of his uncertainty about the validity of the results. In this paper, Frick correlated the concentrations of lime, soda, potash, and phosphoric acid and water and showed seasonal variations. The quantities of chlorides, phosphates, soda, and potash were noted to be higher during the winter and spring months than in the summer and fall. This he attributed to losses through the skin in warm weather.

Studies of Blood and Urinary Calculi

Frick studied clot formation and the relationships of fibrin, iron levels, and quantities of red cells in patients with purpura. This was closed with a prophetic statement: "ultimately chemistry plays a most important part in the production of disease; and in unravelling the tangled web of pathological hematology hereafter, its assistance must be principally relied on" (Cordell).

According to Holmes, "Professor Frick was one of the first in the country to investigate the chemical changes produced in the blood by disease" (O.W. Holmes, *Trans Am Med Assoc*, 1848).

Important contributions relating to the differential characteristics of remittent fever and its clinical history were made by him in 1846; our present knowledge of this disease rests mainly on the facts contained in these contributions and those of Stewardson, Swett, Anderson, Stille and Bolling (Cordell, E.F. *Historical Sketch of the University of Maryland School of Medicine 1807-1890*. Baltimore: Press of Isaac Friedenwald, 1891, pp. 119-20; Donaldson, F. *Lives of Eminent American Physicians and Surgeons of the Nineteenth Century*, Gross, S. (ed). Lindsay and Blakiston, 1861).

A major work of Frick was his study of the formation of urinary calculi and the essays he published on the subject. His knowledge of uric acid metabolism was broad; he accepted that uric acid was a normal constituent of blood and that in acute and chronic gout an abnormal quantity was present. He noted no excess of uric acid in rheumatism. It was correctly stated that a deposit of uric acid or its salts does not always occur because there is an excess. Frick's writings describe phosphate calculi in the bladder as well as uric acid and lime oxalate calculi in the kidney. He advised that "remedies be addressed to the urinary passages themselves, and not to their secretions."

In 1855, Frick was appointed physician to the Union Protestant Infirmary. When the Maryland College of Pharmacy was reorganized in 1856, Frick, with his excellent background, was appointed Professor of Materia Medica. During spring and summer 1857, Frick visited Europe, particularly the hospitals in Paris and London. He was received cordially by physicians such as Paget, Todd, Bence Jones, and Trousseau, who were well aware of his original and innovative contributions to clinical medicine, particularly his chemical measurements. Frick was especially gratified when he found these great pathologists were familiar with his scientific papers and had high regard of them. While on the continent, Frick collected herbs that he brought back to America to study and to strengthen his teaching of therapeutic medicine.

Professor of Materia Medica

When Professor Richard H. Thomas, Professor of Obstetrics at the University of Maryland Medical School, resigned in 1858, Professor George W. Miltenberger, Professor of Materia Medica and Therapeutics, was made Professor of Obstetrics. This made a vacancy in the Faculty of Medicine requiring a physician of high talents.

Frick had many offers for academic posts elsewhere, but his close social ties to Baltimore and his preeminence in medicine, as one qualified to conduct proper clinical and experimental studies culminated in his election to the vacant Chair of Materia Medica, Figure 2. He opened the fall session in 1858 with an "Intro-

ductory Address," in which he spoke of the mission of the medical profession, how the various basic and clinical disciplines are related, and the virtues and limitations of therapeutic remedies. Professor Christopher Johnston described it "as a discourse of great elegance." The course in *Materia Medica* was rejuvenated by Frick, and

he stamped a powerful and individual impression upon the course of lectures he delivered and conducted his clinical teaching in so strikingly original, truthful and instructive a manner, as to fill his friends with pride and admiration (C. Johnston, "Proceedings of Memorial Meeting," Medical and Chirurgical Faculty, March 29, 1860).

Frick's Lectures are found in three volumes at the Library of the Medical and Chirurgical Faculty of Maryland.

In 1850 Frick published a volume on "Renal Diseases" in which he succeeded admirably in simplifying the study of urinary pathology. He advised his readers not to place too much confidence on either the chemical or microscopic examination of urine, but to place the findings in the same context that auscultation occupied in thoracic diseases: their significance to be interpreted by the other manifestations. In this book and other publications, Frick established that a form of dumbbell crystal contained uric acid as well as oxalate of lime. The work on dumbbell crystals, reported with drawings from microscopic visualization, showed the gradual development of these uric acid formations. His finding settled arguments prevalent at that time.

In an excellent clinical paper on diabetes mellitus, published in 1852, he described the influence of various treatments and diets on the course of illness. Frick's

studies of urea convinced him that it was not entirely derived from the breakdown of nitrogenous tissues, but that it might be increased by the ingestion of nitrogenous food. He concurred with Liebig and Hammond that urea also was formed from the oxidation of uric acid.

In 1855 Frick reported to the Baltimore Pathological Society (published in the *Virginia Medical Journal* and elsewhere) that the mere presence of albumin in the urine, contrary to the views of Richard Bright, does not in itself indicate Bright's disease. Rather, it may be due to simple congestion or to pressure such as in pregnancy or other causes. In the same proceedings (Flint, International Congress, 1876), L.P. Yandell mentions Frick's work on renal diseases as among the ablest of the contributions made to our literature by the medical profession. (See Addresses on Memorial Meeting, Medical and Chirurgical Faculty, March 29, 1860, Drs. Johnston, Donaldson, Steiner, and Cox.) Frick's last work was a "Lecture on Diuretics," published by his class. It embodied much of his earlier work and views.

In this remarkable lecture, which qualifies as a scientific writing, he describes the action of various diuretic agents including digitalis, mercury, and turpentine. He makes a case for the advantage of moderate venesection in certain cases. There are practical and accurate suggestions for students and practicing physicians who eagerly attended his lectures.

In 1856, Frick published a *Manual on the Diagnosis and Pathology of Renal Diseases*, which clarified a poorly understood subject. He made exhaustive analyses of the blood and urine in patients with fevers and renal disorders.

A painstaking study on the diuretic properties of various drugs, based on his studies of 2,000 separate observations of prison inmates, was presented to the Maryland Medical and Chirurgical Faculty at the annual meeting in June 1859. Frick stressed that frequently the extra amount of urine passed was related to the amount of perspiration as well as the quantity of water imbibed. He reported the diuretic action of quinine sulphate, juniper tea, iron prussiate, iron sulphate, and acetate of potash. Morphine and strychnine were found to have no diuretic effect. He believed the amount of solid material in the urine represented the waste of tissues seeking a urinary outlet and was important to diuretic action.

Pioneer Program

Frick completed two courses of lectures and, on assuming the Chair, immediately took charge of the medical department in the Infirmary where he had an exciting impact on students. On the medical wards, his excellent knowledge of chemistry and therapeutics and his diagnostic ability combined to make him a popular and persuasive clinician. Here he had the opportunity to practically test the value of remedies of which he spoke at the University. His credibility was made even greater because of his readiness to admit an error in diagnosis. He was an excellent lecturer who made dry subjects on drugs quite interesting. His knowledge of clinical medicine coupled with his exhaustive information of known forms of treatment and how diseases changed the body secretions marked him as a leader within the faculty. There was no limit to the favorable influence he exerted on the teaching of clinical medicine. This remarkable man coordinated a course of didactic lectures and clinical and laboratory studies,



Figure 2. Charles Frick MD, taken at the time of his appointment as Professor of *Materia Medica* at the University of Maryland School of Medicine in 1858.

perhaps the first such in America. His instruction included discussions of pathophysiologic mechanisms and experimental therapeutics that were correlated with chemical measurements.

Charles Frick always conducted himself as a cultured gentleman despite his busy professional life. He advised one of his graduating classes,

you should bear in mind always that you are members of an intelligent and civilized society—remember that the tendency of every pursuit is to give a certain narrowness to each individual's mind whereby he accords too great importance to his own occupation and underrates all others. In your leisure moments, therefore, endeavor in a knowledge of the useful and elegant arts and in the charms of polite literature, to enlarge those requirements, which are common to all educated men.

Fate changed the brilliant prophecy for his future. In March 1860, Charles Frick was caring for a woman with diphtheria on whom it became necessary for him to perform a tracheotomy. He contracted the disease and after a brief illness of five days, died at noon on March 25, 1860. By Frick's request, his friend and associate Dr. Miltenberger opened his throat, which only temporarily eased him. He died with his wife, mother, sister, brothers, and close medical associates by his side. He was thirty-seven.

Charles Frick's death and funeral attracted the attention and commanded the sorrow of the entire medical profession in Baltimore. He died a martyr to his profession. "He died as he had lived, all patience and courage, all endurance" (C. Johnston, Memorial Meeting, Medical and Chirurgical Faculty, March 29, 1860). He is memorialized by a room of the Library of the Medical and Chirurgical Faculty bearing his name (Figures 3 and 4) and by an endowed fund. During the brief period of his chairmanship, Charles Frick left an "imperishable memory in the Annals of the University" (Cordell, E.F. *The Medical Annals of Maryland, 1799-1899*. Vol. I. New York, Chicago: The Lewis Publishing Co., 1907).

The tragic death of Charles Frick at such a young age was a great loss to the medical school and hospital. He was a leader in his time who embodied all the attributes desired of a clinician in either the nineteenth or twentieth centuries. As a senior faculty member with unusual clinical ability, he sensed the need for incorporating experimental methods into teaching and committed himself to developing these objectives through

laboratory study in the investigation of human illness. Contributions by Frick were innovative, new, and remarkably accurate, particularly in view of the limited technical assistance available to him. Clearly his work in the general fields of applied biochemistry, clinical pharmacology, and nephrology helped lay the foundations for those specialists who later were to devote their attention to qualitative and quantitative measurements of organ function and secretion.

Undoubtedly, had he lived Charles Frick would have succeeded to the Chair of Medicine after the tenure of Samuel Chew. Under his inspired leadership, research methods would have been initiated and developed, placing the school and hospital on a firm, established clinical and research basis soon after the mid-nineteenth century. With his high qualifications as a clinician, his intelligence, obvious intense interest and ability to evaluate chemical determinants of human illness, Frick was ideally suited to catalyze this transition to clinical teaching and applied basic research.

Because the established tradition in Baltimore that a major determinant of success in the profession (including medical faculty members) was the stature and volume of a physician's practice, this would have been difficult for him to accomplish. Frick would have re-



Figure 3. Frick Library, former Maryland Medical and Chirurgical Faculty, 847 North Eutaw Street, Baltimore.



Figure 4. Memorial plaque to Charles Frick MD, Maryland Medical and Chirurgical Faculty, 1211 Cathedral Street, Baltimore.

quired a full-time commitment to his teaching and research interests; this was an unacceptable role for medical faculty members until William Welch pioneered this concept at Hopkins. Research as an important facet of the University of Maryland's medical academic program had to wait well into the twentieth century before such changes occurred.

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CURRICULUM IN MEDICINE PRE- AND POST-CIVIL WAR AND LATE NINETEENTH CENTURY

In its published catalogues for students, the faculty stressed its purpose to prepare the student for the practice of his profession and to impress him to seek knowledge for himself. The disciplines of medicine involved Chemistry and Pharmacy, Materia Medica and Hygiene, and the Theory and Practice of Medicine. The latter included special lectures and clinical visits and lectures at the Infirmary (University of Maryland Hospital). The aims of practice were said to "lie in managing the history of diseases, in judging the administration of remedies and the adjusting of all the weighty concerns relating to the cure of diseases pursuant to the laws of experience."

The chief object of the school "was to teach what is known, not to speculate about the unknown, to place before the student intelligible precepts for identifying disease, its differences and resemblances; to enable him to recognize its beginning, understand its progress, anticipate its event and the influences which tend to produce or arrest it, appealing, for confirmation and illustration of the truth of what is taught, to the cases which are daily witnessed in the hospital wards."

These were the very worthy objectives of the school that stressed the need to develop the clinical skills of history taking and physical examination and to follow the national course of illness.

New knowledge of Physiology and Pathology were beginning to clear many of the obscurities of prevalent diseases, Chemistry was daily becoming a more useful aid to the practitioner and Surgery was already a major force in curative and palliative medicine.

The Infirmary contained 150 beds for purposes of clinical teaching for all varieties of acute and chronic illnesses. The student was not only exhorted to attend

the clinical teaching sessions but was advised that "no candidate for graduation can be admitted to examination until he produced evidence of such attendance."

Students were urged to "devote at least three years to preparatory study, to attend three courses of lectures and, when not engaged in attendance upon lectures, to occupy themselves with a course of systematic reading, under the direction of a judicious practitioner or in one of the private medical schools." At one time in the late nineteenth century, there were ten medical schools in Baltimore.

1875-1876

Faculty in Medicine McSherry, Richard (Principles and Practice of Medicine); Chew, Samuel C. (Materia Medica, Therapeutic and Clinical Medicine); Donaldson, Frank (Physiology and Hygiene); Miles, Francis T. (Professor Anatomy and Clinical Professor Nervous System)

The catalogue described "the new hospital, recently completed, which compared favorably with any in the country. Fees for the complete course of lectures were \$120.00, Graduation Fee \$20.00. Majority votes of faculty will determine the results of examination. Also the candidate is judged on fitness, knowledge of general attendance and industry, character habits and results of final examination. The dissection room will be open daily except Sunday. Students appointed as Clinical Recorders or Clinical Assistants (for work in hospital) will pay a fee of \$100.00, in advance, for hospital residence. This covers light, lodging and fuel. The expense of living is low in Baltimore as in any large city from \$4 to \$6 per week inclusive of fuel and light."

(S. C. Chew, M.D., Dean of Faculty)

RICHARD McSHERRY **1863–1885**

Scholarly Practical Clinician, Dedicated Military Medical Officer, Devoted Papal Servant Fifth Chairman of Department of Medicine

This biography is reprinted from the Winter 1980 Bulletin.

A graduate of the University of Maryland class of 1882 described Richard McSherry, the 5th chairman of the Department of Medicine, as the leading consultant of Baltimore, a man of the highest ethical tone and an expressive lecturer. Instruction at the old school followed the ancient custom of teaching by didactic lectures. The course was for two years, and the lectures of the first year were usually repeated in the second. According to Bond, a professor might write out a course of lectures when he assumed the Chair and read them year by year to his classes in the great amphitheater classroom, for the rest of his life, with such little additions and corrections as occurred to him during subsequent years. Second year students knew all the anecdotes and rhetorical flourishes and climaxes by heart, having applauded them previously. Some professors lectured without notes and held the attention of students as well as would be permitted by the hard wooden ledges on which they sat. But the lectures were usually on the same subject in much the same language.

Richard McSherry was a member of a strong faculty consisting of able men who knew how to stimulate learning in pupils. The students in turn added to their routine weekly "quiz classes" which would be conducted by a recent graduate, who drilled them in the themes of lectures and in the essentials of actual practice. Medical teaching in McSherry's era was by lecture, assigned reading and the passing of quizzes. The clinics the professors conducted in the University Hospital across the street were faithfully attended by students. The professors were engaged in treating the sick in the office and at home and made their lectures practical. Usually, in the clinics, they were genial and bent on teaching by demonstration.

Often, before entering school, a student had worked a year or more under a "preceptor" or local practitioner whose books he read and

with whom he drove from home to home and assisted in operations. Students worked hard because they needed to conserve their own savings and those of their parents. School activities centered around the great amphitheater (Davidge Hall) which had not well weathered the wear and tear of almost a century nearly as well as the majestic pillared portico through which students and faculty entered. In the building, there were no decorations to relieve the general bareness save for a crayon drawing, Raphael's St. Michael and the Devil, opposite the entrance of Anatomical Hall (drawn by Fred Butler, a student in 1835). Students sat on long semi-circular wooden ledges and, according to Bond, most students came as strangers from remote and poor country districts. Intent on economy, these students wore old and drab clothes which did not serve to brighten the atmosphere in the Great Hall. Yet, these same students, along with their city classmates who were favored with advantages, grew into manhood and, at graduation two years later, when groomed in their hired dress suits, presented as fine a company of young men as one could imagine. After graduation, students either completed their training in the field of family practice by working with an established practitioner or went abroad to the centers of Europe for postgraduate work. It was in this setting, during the Civil War, that Richard McSherry became departmental chairman in 1863.



Davidge Hall about 1880.

University of Pennsylvania.

This is to Certify that Mr. *Richard McSherry*
has passed his examination
by the Medical Faculty for the Degree of Doctor of
Medicine, and that on paying the fees of Graduation,
and entering his name on the Register, he will, con-
formably to the regulations of this Institution, receive
the Degree aforesaid at the next Commencement.

W. E. HORNER,
Dean of the Medical Faculty

Philadelphia, *March 17, 1841*

Diploma of Richard McSherry from University of Pennsylvania School of Medicine, 1841.

The son of a physician by the same name, Richard McSherry was born in Martinsburg, West Virginia, on November 21, 1817, the year of Nathaniel Potter's monograph on "Yellow Fever." His mother was formerly Ann C. King of Georgetown, D. C. Always a devout Catholic, he obtained his academic education at Georgetown College and attended medical lectures at the University of Maryland, but mostly at the University of Pennsylvania where he received his medical degree on March 17, 1841. This was the year that the University of Maryland School of Pharmacy was founded.

For the first ten years of his professional life, McSherry held commissions in the Medical Corps of the United States Army and Navy. Commissioned in the U. S. Army August 21, 1838 as an Assistant Surgeon, he served under

General Zachary Taylor in the Seminole War in Florida. He resigned his commission in 1840.

On January 4, 1842, Archbishop Eccleston married McSherry and Catherine Somerville Wilson, oldest child of Robert Wilson, Jr. The ceremony took place at the country residence of Robert Wilson, Sr., the bride's grandfather. This residence was known as the Cottage Newington, located in that part of Baltimore between Fulton Avenue and Gilmor Street, near North Avenue.

November 22, 1843, Doctor McSherry was commissioned an Assistant Surgeon of the United States Navy and, at the outbreak of the Mexican War, he was detailed as regimental surgeon for a contingent of marines sent to the front. During the whole campaign, he served under General Winfield Scott and was present at the capture of Chapultepec and Mexico City. Already an accomplished Spanish scholar, he took advantage of his language facility to observe and converse with the Mexicans. On his return to the United States, he wrote *El Puchero or A Mixed Dish from Mexico* which related his experiences and included vivid descriptions of the habits and customs of Mexican people gleaned from first-hand experience. Published in 1850, it recounted General Scott's campaign in Mexico. While commissioned in the Navy, Doctor McSherry cruised around the world on the Frigate Constitution (Old Ironsides), a sister ship of Baltimore's Constellation.

Captain Jack Percival was the commander of Old Ironsides and this voyage included service in the East and West Indies, North and South America, Asia and Africa. During his many travels, Doctor McSherry remained an ardent student of medicine and acquired a knowledge of a wide variety of diseases. On April 17, 1851, he resigned his Navy commission while stationed at the Naval Hospital, Norfolk, Virginia. He then moved with his family to Baltimore where he resided for the remainder of his life.



Constitution (Old Ironsides). Sister Ship to Constellation (now in Boston). Richard McSherry sailed around the world on this frigate.



University of Maryland Hospital, 1880. Richard McSherry conducted medical rounds with students and resident physicians in the Hospital.

In Baltimore, his practice grew slowly but steadily. In 1862, he was appointed lecturer of materia medica to fill the vacancy occasioned by the departure of Professor Edward Warren in 1861 to take part, as a southerner, in the Civil War. He was elevated to the rank of professor in 1863. McSherry was appointed to the professorship only after Warren had been notified that the interests of the school demanded that the chair be filled. Upon the death of Professor Samuel Chew, he was elected to the Chair of the Principles and Practice of Medicine during the fall session of 1863-64.

As a teacher, he was described as safe and inclined strongly to conservatism. His language was perspicuous and sententious and he was particularly polite and condescending to young graduates. Faculty associates and pupils gave him their affectionate regard and esteem because of his genial disposition, transparent sincerity and strict conscientiousness. Doctor McSherry's mind was ever open and receptive to new knowledge. His manner was quiet, unostentatious and he conveyed the impression of being grave.

As a representative physician and churchman, he was constantly called upon to fill public positions for which his well-stored mind, fine presence and exceptional oratorical powers so well fitted him. He was continuously the physician to four archbishops of Baltimore, including Cardinal Gibbons. He gave careful attention to his large private practice but found time to devote to literary pursuits. In addition to his numerous contributions to medical literature, he wrote and published other works.

As a writer, Doctor McSherry's style was simple but vigorous, his English was impeccable and he was fond of apt classical quotations. Always an avid reader, his general knowledge was regarded as encyclopaedic. His writings were practical in their content and displayed evidence of his powers of close observation and judicious reasoning. No less a person than Franklin Pierce, President of the United States, complimented Doctor McSherry on his literary style in a letter dated February 16, 1869, from Concord, New Hampshire.

That McSherry was a practical and wise clinician is particularly demonstrated by a comment such as, *"Fortunately a good general idea of the nature of disease and of general pathology may direct the practitioner to a proper course of therapeutics, even when the typical form is obscured by shades of gradation or by complications. The last, in fact, often supervene to such an extent as to become the chief objects of attention. . . . every case, whatever it may*

be called, offers its own problems for the consideration and judgement of the thoughtful practitioner."

A large number of lectures, monographs and articles were published in medical journals which dealt with the practical aspects of medical and surgical problems. His book of personal experiences in Mexico, *El Puchero*, displayed his perceptive and orderly ability to comprehend others' problems. His essay on *Health and How to Promote It* characterized his strong faith in the coincidence of good health and good morals: *"with a single exception, there is nothing that is or ought to be of so much interest to humanity as the subject of human health. The writer desires to keep this interest alive and to diffuse it. He wishes to be understood generally that the great science of medicine is not limited to the administration of drugs inasmuch as it embraces everything tending to the physical well-being of the race."* McSherry's words are just as apt for the twentieth century.

McSherry insisted on high ethical standards. He accepted the concept that *"physicians have a right to commend pure drugs and reliable preparations made for them by skillful pharmacists. They should look for the best medicines, and encourage the pharmacists who prepare and vend them; but it certainly must be held to be a breach of professional proprieties for a physician to give his certificate to one manufacturer's cough medicine and to another's liver pills, and to another's vermifuge and to the multitudinous combinations made by medical tradesmen for the indiscriminate sale to the public."*

The writer finds McSherry's comments on competence and training particularly fitting to contemporary late twentieth century medicine. He said, *"A competent specialist should have passed over the whole field of medicine both in study and practice for a term of years; and the general practitioner must keep up an acquaintance with all specialties, since there is no exact line of division between specialties and general medicine. The man whose life is to be devoted to the care or cure of human maladies must not be half educated, whatever may be his destined career of practice."* When are we ever to profit from the mistakes of medical history!

In his treatise on the *Early History of Maryland*, McSherry precisely describes the persons and events during the seventeenth and early eighteenth centuries that contributed to its spiritual and cultural growth. Great tribute was paid Lord Baltimore (George Calvert) for his beliefs and practices which tolerated all religions on an equal footing in contrast to others of the early colonial states. He delighted in



Richard McSherry as Professor of Principles and Practice of Medicine.



Letter to Dr. Richard McSherry from President Franklin Pierce dated February 16, 1869. (Graciously contributed by Clinton MacSherry, 704 Wyndhurst Avenue, Baltimore.)

describing the civil and religious liberty, prosperity and peace which were the fruits in Maryland of the War of Independence. The revolution restored lost liberties to the people of Maryland.

Dr. and Mrs. McSherry had eight children; four died very young. Another, Wilhem Kilty McSherry, a Lieutenant in the United States Marine Corps, predeceased him, dying in his twenty-sixth year. Three sons, who resided in Baltimore, were Richard Meredith, Henry Clinton and Allan McSherry. Doctor McSherry's widow died December 2, 1893.

Among professional honors held by Doctor McSherry was that of first President of the Baltimore Academy of Medicine from 1877-79. He was a founding member of the Academy. Doctor McSherry was President of the Maryland Medical and Chirurgical Faculty in 1883-84 and President of the Maryland State Board of Health in 1884, important posts held just prior to his death.

Doctor McSherry's useful and honorable life ended on October 7, 1885, after a month's illness. He died of phthisis pulmonalis, now known as pulmonary tuberculosis. McSherry was the second Chairman of Medicine, along with William Power, to die of this common nineteenth century illness. A later Chairman,

Dr. Gordon Wilson, was disabled by pulmonary tuberculosis. Doctor McSherry died at his home, 189 North Howard Street, in his sixty-eight year. The funeral, attended by members of the medical profession and city dignitaries, was held in the Cathedral of the Assumption at 10:00 a.m. on October 8, 1885. He was buried in the family lot in the Bonnie Brae Cemetery (now the New Cathedral Cemetery, 4300 Old Frederick Road).

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CURRICULUM IN MEDICINE 1900–1901

Faculty of Principles and Practice of Medicine: Samuel C. Chew, Professor; Isaac E. Atkinson, Charles W. Mitchell, Thomas Gilchrist, John C. Hemmeter, Joseph T. Smith, John S. Fulton, Morris C. Robins, Joseph R. Gichner, A. D. Atkinson, W. L. Messick, T. L. Savin, C. J. Keller, and others

Four annual graded courses of not less than seven months each are required for graduation. Each applicant for advanced standing will be required to present satisfactory evidence of having attended courses reasonably equivalent to those already attended by the class to which he seeks admission, to be examined for admission in all of the subjects in which the said class shall have been examined already, or to present satisfactory certificates of having passed successful examinations upon those subjects.

During the *first curricular year*, students heard lectures and recitations by Professor Miles (Physiology and Neurology) and Doctor Messick.

The *second year* offered lectures and recitations by Professor Mitchell in Therapeutics.

During the *third year*, lectures and recitations in the practice of medicine were presented by Professor Chew along with Associate Professors of Clinical Medicine. These were given in Davidge Hall and the University Hospital.

Class sections in Physical Diagnosis were conducted by Professors Robins, Craighill and Atkinson for one hour weekly.

Professor Mitchell presented lectures in Therapeutics for two hours each week.

The *fourth year* course in the Practice of Medicine included clinical lectures and conferences at the University Hospital by various Associate Professors of Medicine. Clinical lectures were given at Bay View Hospital by Professors Gichner and Robins. For six hours weekly, ward and dispensary instruction were given by Professor Mitchell and staff.

In addition to the regular daily clinical lectures in the amphitheater, much attention was given to strictly bedside instruction. Students, in small groups, were required to accompany the physician or surgeon through the wards of the hospital when they were trained especially in diagnostic methods. The University Dispensary furnished an abundant supply of patients for clinical instruction.



New University Hospital



Prof. J. Edmondson Atkinson
Clinical Medicine - Dermatology



Prof. John C. Hemmeter
Clinical Medicine - Physiology



Prof. Thomas C. Gilchrist
Dermatology - Clinical Medicine



Prof. Charles W. Mitchell
Clinical Medicine - Pediatrics

University of Maryland.

NINETY-FOURTH ANNUAL ANNOUNCEMENT
OF THE
SCHOOL OF MEDICINE.

N. E. COR. LOMBARD AND GREENE STS.,
BALTIMORE, MD.

Session, 1900-1901.



BALTIMORE:
KOHN & POLLOCK,
1900.

Board of Regents of the University of Maryland.

BERNARD CARTER, LL. D., PROVOST.

SAMUEL C. CHEW, M. D.	R. DORSEY COALE, PH. D.
HON. JOHN P. POE.	RICHARD M. VENABLE, ESQ.
HON. CHARLES E. PHELPS.	RANDOLPH WINSLOW, M. D.
FRANCIS T. MILES, M. D.	THOMAS A. ASHBY, M. D.
LOUIS McLANE TIFFANY, M.D.	WM. T. BRANTLY, ESQ.
F. J. S. GORGAS, M. D., D. D. S.	HON. HENRY D. HARLAN.
JAS. H. HARRIS, M. D., D. D. S.	EDGAR H. GANS, ESQ.
HON. ALBERT RITCHIE.	L. E. NEALE, M. D.
CHARLES W. MITCHELL M. D.	

Calendar.

NINETY-FOURTH ANNUAL SESSION.

1900.

June 1st to September 30th.—Daily Clinical Lectures at University Hospital.
September 22d and October 6th.—Matriculation Examination.
11 A. M.
October 1st.—Regular Session Begins.
November 3d.—Re-examination of Deficient Students and Examination for Advanced Standing.
November 29th.—Thanksgiving Day.
December 22d.—Christmas Recess Begins, 6 P. M.

CHRISTMAS RECESS.

1901.

January 3d.—Lectures Resumed. 9 A. M.
February 22d.—Washington's Birthday (Holiday).
April 15th.—Final Examinations Begin.
May 1st.—Commencement. Annual Meeting of Alumni Association.

University of Maryland.

BERNARD CARTER, LL. D.,
Provost.

FACULTY OF PHYSIC.

GEORGE W. MILTENBERGER, M. D.,
Emeritus Professor of Obstetrics and Honorary President of the Faculty.

SAMUEL C. CHEW, M. D.,
Professor of Principles and Practice of Medicine and Clinical Medicine.

WILLIAM T. HOWARD, M. D.,
Emeritus Professor of Diseases of Women and Children and Clinical Medicine.

JULIAN J. CHISOLM, M. D., LL. D.,
Emeritus Professor of Eye and Ear Diseases.

FRANCIS T. MILES, M. D.,
Professor of Physiology, and Clinical Professor of Diseases of the Nervous System.

LOUIS McLANE TIFFANY, M. D.,
Professor of Surgery.

ISAAC EDMONDSON ATKINSON, M. D.,
Emeritus Professor of Therapeutics, and Clinical Medicine.

R. DORSEY COALE, PH. D.,
Professor of Chemistry and Toxicology.

RANDOLPH WINSLOW, M. D.,
Professor of Anatomy and Clinical Surgery.

L. E. NEALE, M. D.,
Professor of Obstetrics.

CHAS. W. MITCHELL, M. D.,
Professor of Therapeutics, Diseases of Children and Clinical Medicine.

THOS. A. ASHBY, M. D.,
Professor of Diseases of Women.

HIRAM WOODS, JR., M. D.,
Clinical Professor of Eye and Ear Diseases.

J. HOLMES SMITH, M. D.,
Associate Professor and Demonstrator of Anatomy, and Lecturer on Clinical Surgery.

J. MASON HUNDLEY, M. D.,
Clinical Professor of Diseases of Women.

THOMAS C. GILCHRIST, M. B.,
Clinical Professor of Dermatology.

JOHN C. HEMMETER, M. D., PH. D.,
Clinical Professor of Diseases of the Stomach, and Director of the Clinical Laboratory.

JOSEPH T. SMITH, M. D.,
Associate Professor of Medical Jurisprudence and Hygiene, and Clinical Medicine.

WM. R. STOKES, M. D.,
Associate Professor of Pathology and Bacteriology, and Visiting Pathologist to the University Hospital.

JOHN S. FULTON, M. D.,
Clinical Professor of Medicine.

FRANK MARTIN, M. D.,
Associate Professor of Clinical Surgery.

D. M. R. CULBRETH, M. D.,
Associate Professor of Materia Medica and Pharmacognosy.

B. B. LANIER, M. D.,
Associate Professor of Principles of Surgery.

L. M. ALLEN, M. D.,
Associate Professor of Obstetrics.

ST. CLAIR SPRUILL, M. D.,
Associate Professor of Clinical Surgery.

JOS. L. HIRSH, M. D.,
Associate Professor of Histology and Embryology.

MORRIS C. ROBINS, M. D.,
Associate Professor of Clinical Medicine.

JOS. E. GICHNER, M. D.,
Associate Professor of Clinical Medicine.

J. M. CRAIGHILL, M. D.,
Associate Professor of Clinical Medicine,

A. D. ATKINSON, M. D.,
Associate Professor of Clinical Medicine.

JOHN G. JAY, M. D.,
Lecturer on Clinical Surgery.

ROBERT REULING, M. D.,
Lecturer on the Pathological Anatomy of the Nervous System.

J. W. HOLLAND, M. D.,
Lecturer on Clinical Surgery.

W. I. MESSICK, M. D.,
Lecturer on Clinical Medicine, and Demonstrator of Physiology.

H. H. ARTHUR, M. D.,
Instructor in Diseases of Women.

S. B. BOND, M. D.,
Instructor in Genito-Urinary Diseases.

H. M. FITZHUGH, M. D.,
Instructor in Minor Surgery and Bandaging.

F. M. CHISOLM, M. D.,
Demonstrator of Ophthalmology.

E. E. GIBBONS, M. D.,
Demonstrator of Ophthalmology.

HUGHLETT HARDCASTLE, M. D.,
Demonstrator of Diseases of Throat and Nose.

HARRY ADLER, M. D.,
Demonstrator of Clinical Pathology.

F. A. HANCOCK, A. B.,
Demonstrator of Chemistry.

M. R. WALTER, M. D.,
Demonstrator of Histology and Embryology.

HARRY GROSS, M. D.,
Assistant Demonstrator of Anatomy.

E. V. MILHOLLAND, M. D.,
Assistant Demonstrator of Diseases of Throat and Nose.

S. DEMARCO, M. D.,
Assistant in Pathology.

W. C. HYDE, M. D., AND HOWARD KAHN, M. D.,
Assistants in Histology and Embryology.

JOHN TURNER, JR., M. D.,
Prosecutor to the Professor of Anatomy.

W. A. DUVAL, M. D.,
S. DEMARCO, M. D.,

C. RIELY, M. D.,
H. W. KENNARD, M. D.,
Anatomical Assistants.

A. T. CHAMBERS, M. D.,
H. M. FITZHUGH, M. D.,

Dispensary Physicians and Chiefs of Clinics.

PAGE EDMUNDS, M. D., Dispensary Physician.

J. M. CRAIGHILL, M. D., A. D. ATKINSON, M. D., and MORRIS C. ROBINS, M. D., Chiefs of Clinic to the Professor of the Practice of Medicine. T. L. SAVIN, M. D., and C. J. KELLER, M. D., Assistants.

W. I. MESSICK, M. D., Chief of Clinic to the Professor of Diseases of the Nervous System.

FRANK MARTIN, M. D., and M. J. CROMWELL, M. D., Chiefs of Clinic to the Professor of Surgery.

L. M. ALLEN, M. D., Chief of Clinic to the Professor of Obstetrics.

J. L. HIRSH, M. D., Chief of Clinic to the Professor of Diseases of Children. H. C. HYDE, M. D., and HOWARD KAHN, M. D., Assistants.

H. H. ARTHUR, M. D., Chief of Clinic to the Professor of Diseases of Women.

E. E. GIBBONS, M. D., Chief of Clinic to the Professor of Eye and Ear Diseases.

J. R. ABERCROMBIE, M. D., Chief of Clinic to the Professor of Dermatology.

HENRY ADLER, M. D., Chief of Clinic to the Professor of Diseases of the Stomach.

MR. HERBERT LUCAS,
Secretary to the Dean, and Superintendent of College Buildings.

The University of Maryland.

The School of Medicine of the University of Maryland is one of the oldest institutions of medical education in America, having been founded in 1807.

Five years later, in 1812, by authority of the General Assembly of Maryland, the Medical College of Maryland was empowered to annex to itself three other colleges or faculties, viz: The Faculty of Divinity, The Faculty of Law and The Faculty of Arts and Sciences, and the four faculties or colleges thus united were "constituted an University by the name and under the title of The University of Maryland."

The Medical School of the University is thus its oldest department, and ranks fifth in point of age among the medical colleges of the United States.

Throughout the ninety-three years of its existence it has always taken rank as one of the leading medical colleges of the South, and among the most widely known and most highly honored of the schools of medicine of the country.

Beginning with the modest number of five, composing the first graduating class in 1810, the list of graduates in medicine of The University of Maryland now numbers four thousand nine hundred and six names, drawn from all parts of the United States and from abroad, among which are to be found some of the most noted names connected with the history of medicine in our country.

While from the foundation of The University of Maryland, the policy of the Faculty of Physic has been one of wise conservatism, it has, at the same time, never been behindhand in the march of educational progress, and while retaining for so long a time as they were of real value, those features of older educational methods which were wisest and best, they have often been first, and always among the first, in the adoption of all measures tending to improvement in methods of medical teaching, and to true elevation of the standard of medical education.

In illustration of this we may mention the following facts:

The School of Medicine of The University of Maryland was the first medical school in America to make dissecting a compulsory part of the curriculum. [1833.]

It was among the first to teach Hygiene and Medical Jurisprudence. [1833.]

It was the first to give instruction in Dentistry. [1821]

It was among the first to meet the modern demand for instruction in specialties. [1866.]

It was the first medical school in America to establish separate and independent chairs of Diseases of Women and Children [January, 1867,] and of Eye and Ear Diseases. [1873.]

It was among the very first to provide for adequate clinical instruction by the erection of its own hospital, available at all times for the use of the students.

It is the aim of the present Faculty of Physic of The University of Maryland to carry out this policy established by its predecessors.

With this end in view, the Faculty has, in the last few years, expended, and is now expending, large amounts in the establishment and equipment of its Lying-in Hospital, its laboratories of Chemistry, Histology, Pathology and Bacteriology, and in the erection of the new University Hospital, which was completed in 1897, and is therefore in a position to offer to students of medicine and graduates a course of combined didactic, clinical and laboratory instruction which will compare favorably with that offered by any medical school in the United States.

The details of this course will be found in the following announcement of the ninety-fourth annual course of instruction of the School of Medicine of The University of Maryland.

University of Maryland.

School of Medicine.

ANNOUNCEMENT OF THE NINETY-FOURTH ANNUAL COURSE OF INSTRUCTION.

SESSION OF 1900-1901.

The Ninety-fourth Annual Session of the School of Medicine of The University of Maryland will begin on Monday, October 1st, 1900, and terminate on May 1st, 1901. During the session there is a vacation from December 22d, 1900, to January 3d, 1901, and there are no lectures on Thanksgiving Day and Washington's Birthday.

Clinical lectures introductory to the regular session are given daily throughout September.

COURSE OF INSTRUCTION.

Four annual graded courses of not less than seven months each will be required for graduation. Every applicant for advanced standing will be required to present satisfactory evidence of having attended courses reasonably equivalent to those already attended by the class to which he seeks admission; to be examined for admission in all the subjects in which the said class shall have been examined already, or to present satisfactory certificates of having passed successful examinations upon those subjects. Opportunity for taking such examinations will be afforded previous to the opening of each annual session.

The system of instruction for the four years' graded course, with the number of hours in each week devoted to each subject, is shown in the following schedule:

FIRST YEAR.

Physiology—Lectures and recitations, 3 hours. Prof. Miles

Demonstrations, 1 hour. Dr. Messick.

Chemistry—Illustrated lectures on General Chemistry, 2 hours. Prof. Coale.

Laboratory work, 6 hours, half a year. Prof. Coale and Mr. Hancock.

Anatomy—Lectures and recitations, 3 hours. Prof. Winslow.

Osteology—Recitations and demonstrations in class sections, 2 hours. Prof. Smith and Drs. Gross, Turner and Duvall.

Dissections, by class sections, daily, 2½ hours. Prof. Smith and Assistants.

Materia Medica—Lectures, demonstrations and recitations, 2 hours. Prof. Culbreth.

Normal Histology—Laboratory work and demonstrations, 6 hours for three months. Prof. Hirsh and Dr. Walter.

The class divisions are so arranged that work in the laboratories and dissecting-room is evenly distributed throughout the term.

At the end of the first year examinations are held in Osteology, Materia Medica, and the Laboratory Courses in Chemistry and Histology.

SECOND YEAR.

Physiology—Lectures and recitations, 3 hours. Prof. Miles.

Demonstrations, 1 hour. Dr. Messick.

Surgery—Bandaging and application of surgical apparatus, 3 hours, in class sections. Prof. Spruill and Dr. Fitzhugh.

Therapeutics—Lectures and recitations, 2 hours. Prof. Mitchell.

Chemistry—Illustrated lectures on Organic and Physiological Chemistry, 1 hour. Prof. Coale.

Laboratory work, 4 hours for 3 months. Prof. Coale and Mr. Hancock.

Anatomy—Lectures, recitations and demonstrations, 3 hours. Prof. Winslow.

Dissections by class sections, daily 2½ hours. Prof. Smith and Assistants.

Embryology and Special Histology—Laboratory work and demonstrations, 4 hours. Prof. Hirsh and Dr. Walter.

Pathology and Bacteriology—Lectures and demonstrations, 1 hour. Prof. Stokes.

At the end of the second term, the student, before being admitted to the third year's class, must stand final examinations in Anatomy, Physiology, Chemistry, the application of surgical apparatus and bandaging and all Laboratory Courses. He must also produce evidence that his work in the dissecting-room and laboratories has been satisfactory. Should he fail to pass a successful examination in any of these branches, a second opportunity will be afforded him at the opening of the regular session in the Autumn; failing in this, such studies for the second year must be repeated.

THIRD YEAR.

Practice of Medicine—Lectures and recitations, 3 hours. Prof. Chew.

Clinical lectures and conferences at University Hospital, 1 hour. Associate Professors of Clinical Medicine.

Diseases of Children—Clinical conferences at University Hospital, 1 hour. Prof. Mitchell.

Diseases of Women—Clinical lectures at University Hospital, 2 hours. Prof. Ashby.

Medical Jurisprudence and Hygiene, 1 hour. Prof. J. T. Smith.

Physical Diagnosis—Class sections, 1 hour. Profs. Robins, Craighill and Atkinson.

Eye and Ear Diseases—Clinical lectures at University Hospital, 1 hour. Prof. Woods.

Surgery—Lectures and recitations on General Surgery, 2 hours. Prof. Lanier.

Clinical lectures at University Hospital, 2 hours. Profs. Tiffany and Winslow and assistants.

Demonstrations in Operative Surgery in class sections, 1 hour. Profs. Martin and Spruill.

Obstetrics—Lectures, 2 hours. Prof. Neale.

Demonstrations, Practical instruction with the manikin and recitations, 1 hour. Prof. Allen.

Clinical Obstetrics at Maternity Hospital, 1 hour. Prof. Allen.

Therapeutics—Lectures and recitations, 2 hours. Prof. Mitchell.

Special Clinics—Diseases of the Nervous System, 1 hour. Prof. Miles.

At the end of the third session the student is admitted to final examination in Principles and Practice of Medicine, Therapeutics, Obstetrics, Principles of Surgery, Pathology, Operative Surgery, and Medical Jurisprudence and Hygiene.

FOURTH YEAR.

(Session of 1901-1902 and thereafter.)

Practice of Medicine—Clinical lectures and conferences at University Hospital, 1 hour. Associate Professors of Clinical Medicine.

Clinical lectures, Bay View Hospital. Profs. Gichner and Robins.

Ward and Dispensary Instruction, 6 hours. Prof. Mitchell and Associate Professors of Clinical Medicine.

Diseases of Children—Lectures and recitations, 1 hour. Prof. Mitchell.

Clinical conference, 1 hour. Prof. Mitchell.

Dispensary instruction, 1 hour, class sections. Profs. Mitchell and Hirsh.

Diseases of Women—Lectures and recitations, 1 hour. Prof. Ashby.

Clinical lectures, Ward and Dispensary instruction, 4 hours. Profs. Ashby and Hundley and Dr. Arthur.

Eye and Ear Diseases—Lectures, 2 hours. Prof. Woods.

Clinical lectures, 1 hour, class sections. Prof. Woods.

Demonstrations, Eye and Ear Hospital, 1 hour. Drs. Chisolm and Gibbons.

Demonstrations, Eye and Ear Dispensary, 1 hour. Dr. Gibbons.

Clinical Surgery—University Hospital, 2 hours. Profs. Tiffany, Winslow and assistants.

Clinical Conference in Surgery, 1 hour. Prof. Tiffany.

Ward and Dispensary Instruction, 6 hours, class sections. Profs. Tiffany and Winslow and assistants.

Genito-Urinary Surgery, 1 hour. Dr. Bond.

Obstetrics—Clinical Conference, 1 hour. Prof. Neale.
 Special Pathology, class sections. Prof. Allen.
 Attendance upon labor cases in and out of hospital. Ward visits
Special Clinics—Diseases of the Nervous System, 1 hour. Prof. Miles.
 Diseases of the Skin, 1 hour. Prof. Gilchrist.
 Diseases of the Stomach, 1 hour. Prof. Hemmeter.
 Diseases of the Throat and Nose, 1 hour. Dr. Hardcastle.
 Clinical Laboratory, class sections, 2 hours. Prof. Hemmeter and Dr. Adler.

At the end of the fourth year the student is admitted to the final examinations upon Clinical Medicine, Diseases of Women, Diseases of Children, Diseases of Eye and Ear, Clinical Surgery, Clinical Obstetrics, and the other special clinical courses, and upon passing successfully upon these branches will be admitted to the degree of Doctor of Medicine.

For the session of 1900-1901 only, the schedule of fourth year studies will remain as heretofore, and as given below.

FOURTH YEAR COURSE FOR SESSION OF 1900-1901 ONLY.

Practice of Medicine—Lectures and recitations, 3 hours. Prof. Chew.
 Clinical lectures, University Hospital. Associate Professors of Clinical Medicine.

Clinical Lectures, Bay View Hospital. Profs. Gichner and Robins.

Ward and Dispensary Instruction. Profs. Mitchell and Fulton and Associate Professors of Clinical Medicine.

Diseases of Children—Lectures and recitations, 1 hour. Prof. Mitchell;
 Clinical Lectures and Dispensary Instruction. Prof. Mitchell and Dr. Hirsh.

Diseases of Women—Lectures and recitations, 1 hour. Prof. Ashby.

Clinical Lectures, Ward and Dispensary Instruction. Profs. Ashby and Hundley and Dr. Arthur.

Eye and Ear Diseases—Lectures, 1 hour. Prof. Woods.

Clinical Lectures, 1 hour. Prof. Woods.

Demonstrations, Eye and Ear Hospital. Drs. Chisolm and Gibbons.

Demonstrations, Eye and Ear Dispensary. Dr. Gibbons.

Clinical Surgery, University Hospital, 2 hours. Profs. Tiffany, Winslow and assistants.

Clinical Conference in Surgery, 1 hour. Prof. Tiffany.

Clinical Surgery, Bay View Hospital. Prof. Martin and Dr. Jay.

Ward and Dispensary Instruction. Profs. Tiffany and Winslow and assistants.

Genito-Urinary Surgery. Dr. Bond.

Obstetrics—Clinical Conferences, 1 hour. Prof. Neale.

Attendance upon labor cases in and out of hospital. Ward visits.

Special Pathology, class sections. Prof. Allen.

Special Clinics—Ward and Dispensary Instruction.

Diseases of the Nervous System. Prof. Miles.

Diseases of the Throat and Nose. Dr. Hardcastle.

Diseases of the Skin. Prof. Gilchrist.

Diseases of the Stomach. Prof. Hemmeter.
 Clinical Laboratory, class sections, 2 hours. Prof. Hemmeter and Dr. Adler.

At the end of this year the student is admitted to the final examinations upon Practice of Medicine, Diseases of Women, Diseases of Children, Diseases of Eye and Ear, Practice of Surgery, Clinical Surgery, Clinical Obstetrics, Diseases of the Nervous System, and the other special clinical lectures, and upon passing successfully upon these branches will be admitted to the degree of Doctor of Medicine.

THE FOLLOWING WAS THE SCHEDULE FOR 1899-1900.

FIRST YEAR.

Hour	MON.	TUES.	WED.	THUR.	FRI.	SAT.
9						
10	General Chemistry.	General Chemistry.	Materia Medica.	Organic and Physiological Chemistry.	Materia Medica.	
11	Osteology.		Osteology.		Osteology.	Osteology.
12	Physiology.	Anatomy.	Physiology.	Physiology.	Anatomy.	Anatomy.
1 0 4 30	Chemical and Histological Laboratory.	Chemical and Histological Laboratory.	Chemical and Histological Laboratory.	Chemical and Histological Laboratory.	Chemical and Histological Laboratory.	Chemical and Histological Laboratory.
4 30	Dissection.	Dissection.	Dissection.	Dissection.	Dissection.	

SECOND YEAR.

9						
10	General Chemistry.	General Chemistry.		Organic and Physiological Chemistry.		Pathology.
11			Minor Surgery and Bandaging.	Therapeutics.	Minor Surgery and Bandaging.	Therapeutics.
12	Physiology.	Anatomy.	Physiology.	Physiology.	Anatomy.	Anatomy.
1.30 to 3.30	Chemical and Pathological Laboratory.	Chemical and Pathological Laboratory.	Chemical and Pathological Laboratory.	Chemical and Pathological Laboratory.	Chemical and Pathological Laboratory.	Chemical and Pathological Laboratory.
3.30	Dissection.	Dissection.	Dissection.	Dissection.	Dissection.	

THIRD YEAR.

Hour	MON.	TUES.	WED.	THUR.	FRI.	SAT.
9	Surgery.	Diseases of Children.		Surgery.		
10	Obstetrics.	Operative Obstetrics.	Hygiene.	Surgical Clinic.	Obstetrics.	Pathology.
11	Practice of Medicine.	Diseases of Women.	Practice of Medicine.	Therapeutics.	Practice of Medicine. *	Therapeutics.
12	Physical Diagnosis.	Physical Diagnosis.	Operative Surgery.	Physical Diagnosis.	Operative Surgery.	Physical Diagnosis.
1	Surgical Clinic.	Medical Clinic.	Children's Clinic.	Women's Clinic.	Nervous Clinic.	Eye and Ear Clinic.
3	Pathological Laboratory.	Pathological Laboratory.	Pathological Laboratory.	Pathological Laboratory.	Pathological Laboratory.	
5				Eye and Ear Diseases.		

* Up to January 15th, Diseases of the Stomach;
after January 15th, recitations upon Practice of Medicine.

FOURTH YEAR.

9		Children.				
10	Ward Classes.	Ward Classes.	Ward Classes.	Surgical Clinic.	Ward Classes.	Gynæcological Operations.
11	Practice of Medicine.	Diseases of Women.	Practice of Medicine.		Practice of Medicine. *	
12	Dispensary Instruction.	Dispensary Instruction.	Dispensary Instruction.	Dispensary Instruction.	Dispensary Instruction.	Dispensary Instruction.
1	Surgical Clinic.	Medical Clinic.	Children's Clinic.	Women's Clinic.	Nervous Clinic.	Eye and Ear Clinic.
3	Skin Clinic.	Dispensary Instruction and Clinical Laboratory.	Dispensary Instruction and Clinical Laboratory.	Dispensary Instruction and Clinical Laboratory.	Dispensary Instruction and Clinical Laboratory.	
4.30		Surgery.	Obstetrical Conference.	Eye and Ear Diseases	Surgery.	

Saturday Clinics at Bay View—Surgical, 4 P. M., Medical, 5 P. M.
Autopsies at University and Bay View Hospitals.

Outdoor Obstetrical Cases and Cases at Lying-in Hospital.

* Up to January 15th, Diseases of the Stomach;
after January 15th, recitations upon Practice of Medicine.

Clinical Instruction.

Throughout the entire period of existence of the School of Medicine of The University of Maryland, clinical teaching has always been a prominent and important feature in the course of instruction.

The ownership and exclusive control by the Faculty of Physic of the University Hospital and the Maternity Hospital of The University of Maryland, and the clinical privileges enjoyed by the University in The Presbyterian Eye, Ear and Throat Charity Hospital, Bay View Hospital, and other institutions for the sick in the city, place the Faculty in a position to make unusually prominent this important feature of a medical course, and have enabled it to organize and carry into effect a system of thorough clinical teaching whereby each member of the several class sections is brought into direct personal contact with the cases under examination.

In addition to the regular daily clinical lectures in the amphitheater, much attention is given to this *strictly bedside* instruction.

The students, in small classes, are required to accompany the physician or surgeon through the wards of the hospital, and are there trained in making diagnosis, in the dressing of wounds, the application of splints, plaster jackets and other appliances, and in use of the ophthalmoscope and laryngoscope, and are enabled to observe the progress of cases under treatment.

In the Dispensaries and Out-patient Departments, students have similar opportunities of familiarizing themselves with methods of diagnosis and treatment in the various specialties of medicine and surgery, and of observation of such cases as do not require confinement in bed.

The success already attendant upon this method of instruction justifies the hope of even better results from it in the future, and to the student of medicine the value of the training and encouragement thus afforded him in habits of close and accurate observation, of self-possession and self-reliance, in the future practice of his profession, can hardly be overestimated.

Hospitals and Dispensaries.

UNIVERSITY HOSPITAL.

The University Hospital, which is the property of the Faculty of Physic of The University of Maryland, is the oldest institution for the care of the sick in the State of Maryland. It was opened in September, 1828, under the name of the "Baltimore Infirmary," and at that time consisted of but four wards, one of which was reserved for eye cases. By successive additions this hospital was increased to more than fourfold its original accommodations, there being added to it a large clinical amphitheater, a students' building for the accommodation of the thirty clinical assistants,

and a nurses' building for the accommodation of the pupils of the Training School for Nurses. The yearly increase in the number of patients seeking admission to the hospital has, however, more than kept pace with the increase in accommodations, and the Faculty has therefore erected an entirely new and modern hospital of fully double the capacity of the former building.

The new University Hospital is constructed of brick and Tennessee limestone in the Colonial style of architecture, fronting 175 feet upon Lombard Street, and about the same on Greene Street. It is supplied with the most modern and approved systems of heating, ventilation, etc., and equipped with all modern requirements and conveniences for the care of the sick, and for the clinical instruction of the students of the University.

It is one of the largest and finest hospitals owned and controlled by any medical school in America, and in point of architectural beauty, convenience and completeness of arrangement and equipment compares most favorably with other hospitals.

An important adjunct to the new hospital is the post-mortem building, which is constructed with special reference to the instruction of students in pathological anatomy.

The hospital is situated opposite the University building, so that the student loses no time in passing from the lecture halls to the clinical amphitheater.

Attention is also called to the excellent accommodation in the new hospital for private patients. Charges for board and nursing vary from ten to twenty-five dollars a week, depending upon the location of rooms. A private confinement room has also been arranged for obstetric patients, who may engage rooms in the hospital by addressing the Superintendent.

A portion of the hospital is used as the

MARINE HOSPITAL

for foreign seamen. The great importance of Baltimore as a shipping point brings into her harbor many vessels from all parts of the world, and the sick sailors who are cared for in the wards of the institution give the students an opportunity to observe a large variety of diseases. Another considerable portion of the building is used as a

CITY HOSPITAL

and contains charity beds supported by the city of Baltimore. This department of the hospital is taxed to its utmost capacity to afford accommodations for the patients seeking admission.

Owing to its location, being the nearest hospital to the largest manufacturing district of the city, the University Hospital re-

ceives for treatment a very large number of accident cases of all kinds, both slight and serious. These cases, as well as patients suffering from the various diseases of our own climate, occupy the beds, and add greatly to the facilities of clinical teaching enjoyed by the school. The facilities for clinical instruction have been greatly enlarged by an appropriation by the State of Maryland for the support of free beds for patients from the various counties.

UNIVERSITY DISPENSARY OR OUT-PATIENT DEPARTMENT.

This department of the University Hospital furnishes a most abundant supply of material for clinical instruction. During the past year the number of visits made by patients to the various departments of the Dispensary was 22,727.

The whole department is arranged and thoroughly organized to facilitate the classification of the patients coming under treatment and their distribution to the various professors giving clinical lectures.

During the intervals between the sessions the regular clinics are continued in the amphitheater, and there is also, each day, a bedside clinic in the hospital and service in the dispensary. It will thus be seen that the school offers unusual facilities for clinical study during its regular session, and that the continuance of the clinics during the year affords opportunity to such students and graduates as can spend their time in the city.

Attention is called to the fact that during the interval between the sessions, from May to October, students have the advantage of *three hours of clinical instruction* daily, between the hours of 11 A. M. and 2 P. M.

RESIDENT STUDENTS.

Accommodations are provided in a building adjacent to the hospital for thirty resident students. To these are assigned wards in the hospital, with attendance upon the sick, under the daily supervision of the professors of the University and resident house officers. Special attention is called to the fact that in this institution undergraduates are permitted to enjoy the very great advantages of constant observation of the sick and of receiving daily bedside instruction from the members of the Faculty. Rotation in ward service is the rule adopted, in order that the experience of the students may be as varied as possible.

MATERNITY HOSPITAL OF THE UNIVERSITY OF MARYLAND.

This institution is also the property of the Faculty of Physic, and under its exclusive control and direction, and is conducted

with the special purpose of furnishing actual obstetrical experience to each member of the graduating class.

It is situated on Lombard Street, nearly opposite the University Hospital, and within half a block of the University buildings.

Three resident physicians are annually appointed to this hospital from among the graduates of the University.

For purposes of instruction in this most important branch, the members of the senior class, after a course of instruction by the Demonstrator of Obstetrics on the manikin, are taken in sections of *two students each*, into the wards of the hospital, where, under the direct and immediate supervision of the Professor of Obstetrics and his Chief of Clinic, they are thoroughly instructed in vaginal examination and the antiseptic precautions to be taken in making such examination, abdominal palpation, the diagnosis of presentations, and in the treatment of pregnant women preparatory to labor. The sections of the graduating class are assigned in rotation to attend labor cases in the hospital, and arrangements are perfected whereby members of the section are summoned without delay at any hour when labor occurs.

Students are thus afforded opportunities under the immediate supervision of the instructor to become familiar with the mechanism of labor in all its stages, and have frequent opportunities to witness the application of forceps, and the methods of treatment of the various complications of labor. Much attention is also paid to their instruction in the subsequent treatment of mother and child.

The out-door clinic is thoroughly organized, and after instruction in the hospital, students of the graduating class are allotted to attend labor cases at the homes of patients, under supervision of the Professor of Obstetrics, his Chief of Clinic, or either of the resident physicians of the Lying-in Hospital, whenever complications or difficulties arise.

During the past session an average number of *seventeen cases of labor* were seen by each student of the graduating class.

By this system of combined didactic, practical, and clinical methods of teaching, students of this University are afforded opportunities for instruction in this most important branch of medical science which are equalled by very few other schools and surpassed by none.

THE PRESBYTERIAN EYE, EAR AND THROAT CHARITY HOSPITAL.

This institution is one of the largest special hospitals in the United States, and its abundant clinical material furnishes excep-

tional opportunities for the study of eye, ear and throat diseases.

During the year 1899 10,119 patients were treated.

Emeritus Professor Julian J. Chisolm is Surgeon-in-Chief, and Professor Woods and Drs. F. M. Chisolm and E. E. Gibbons, Demonstrators, are members of the surgical staff.

Under the personal supervision of Professor Woods and the Demonstrators, sections of the graduating class receive special instruction, during two afternoons in each week, in the diagnosis and treatment of eye and ear diseases.

The dispensary of this hospital is open daily from 1 to 4 o'clock P. M., and is free to the medical students of the University.

Here, and at the Eye and Ear and Throat Departments in the University Dispensary ample facilities are afforded for practical study.

BAY VIEW HOSPITAL.

The clinical advantages of the University have been largely increased by the liberal decision of the Board of Trustees to allow the immense material of this hospital of 2,000 beds to be used for the purposes of medical education. There are daily visits and clinics by the teachers of the University in medicine and surgery at that institution, and the dead-house furnishes a great abundance and variety of pathological material, which is used for demonstration. The Insane Department contains 250 beds. Two resident physicians from among the graduates of the school are annually appointed by the Trustees upon the recommendation of the Faculty. The medical staff representing the University at the hospital is as follows:

Physicians.—Joseph E. Gichner, M. D.; Morris C. Robins, M. D.; W. I. Messick, M. D.

Surgeons.—John G. Jay, M. D.; Frank Martin, M. D.; St. Clair Spruill, M. D.; J. W. Holland, M. D.

Ophthalmologists.—A. D. McConachie, M. D.; Edw. J. Bernstein, M. D.

Laryngologist.—M. R. Walter, M. D.

Resident Physicians.—C. Howard Lewis, M. D., and Frederick Lawford, M. D.

LABORATORY INSTRUCTION.

For the purposes of laboratory instruction the classes are divided into sections of twenty-five students each. This arrangement, while facilitating the even distribution of work in the laboratories throughout the year, also enables the instructors to give an unusual amount of personal attention to the work of each individual student.

CHEMICAL LABORATORY.

The Chemical Laboratory is under the supervision of the Professor of Chemistry, aided by the Demonstrator. Each student during his course has assigned him a table and is fully supplied with all necessary apparatus and chemicals, free of charge, except for breakage, which is charged at cost price.

Students of the first year's class will be required to devote six hours, and of the second year's class four hours, weekly, during half the year to work in this department.

The course of instruction embraces: 1st. Training in the proper care and use of apparatus and in the manipulative processes used in the laboratory. 2d. The experimental study of some of the more important elements and compounds, and the repetition of experiments performed in the course of lectures. 3d. Instruction in the elements of qualitative analysis. 4th. Instruction in the chemical analysis of urine. Qualitative analysis is taught so far as to enable the student to analyze a mixture of the salts of the common metals. Instruction in the chemical examination of urine includes the qualitative examination and also some of the simpler methods of quantitative determination of the most important normal and pathological constituents.

Graduates and advanced students competent to undertake such work, who desire to pursue special chemical investigation, will be given the opportunity under suitable regulations.

LABORATORY OF NORMAL HISTOLOGY AND EMBRYOLOGY.

Instruction in this department is given, for six hours weekly, to each section of the class, and attendance is obligatory for all first and second year students. The course of instruction embraces the method of using the microscope and its accessories; methods of hardening, cutting, staining and mounting the various tissues, together with frequent demonstrations of microscopical anatomy of the different organs and tissues of the body. The department is also well supplied with numerous mounted specimens for the instruction of students.

LABORATORY OF PATHOLOGICAL HISTOLOGY AND BACTERIOLOGY.

In addition to the opportunities which are afforded students for the study of gross pathology by the weekly lectures and demonstrations, and by attendance upon the autopsies by Professor Stokes at University and Bay View Hospitals, laboratory instruction is also given in Pathological Histology and Bacteriology, for which purposes the autopsies furnish an abundant supply of material.

Six hours weekly are devoted to this instruction, which is obligatory on all third year students.

The course of instruction embraces the preparation and study of sections illustrating the common lesions of the various organs; the microscopic examination of urinary sediments; the various methods of isolating and identifying micro-organisms, and the methods of staining tubercle bacilli and other important micro-organisms.

Graduates and advanced students qualified to profit by such work, desiring to undertake special lines of investigation in this department, will be afforded excellent opportunities for study.

CLINICAL LABORATORY.

The fourth year class, divided into small sections, is given instruction in examination of blood, urine, sputum, feces, and stomach contents, under the direction of Professor Hemmeter and Dr. Adler. The Laboratory is situated in the University Hospital, and is thoroughly equipped. Dr. Robert Reuling gives a practical course on the Pathology of the Nervous System.

PRACTICAL ANATOMY.

The dissecting-room is in charge of the Demonstrator, who superintends and directs the classes in their dissection. The rooms are convenient, well warmed, ventilated and lighted. The Demonstrator and his assistants pass much of their time in assisting the students and in guiding their labors. Access may be had to the rooms at all hours of the day and until 10 o'clock P. M., when they are closed for the night.

Dissecting tickets must be countersigned by the Demonstrator as an evidence of satisfactory dissection.

Dissecting material is furnished in abundance, free of charge.

The Demonstrator also gives a private course of dissecting during the months of March, April and May, for which a moderate fee is charged and ample material furnished.

DENTAL INFIRMARY.

The Dental Department of the University of Maryland is situated upon the University grounds, fronting on Greene Street, and adjoining the buildings of the School of Medicine.

Daily clinics are held in this department in the afternoon from 2 to 5 o'clock, which are open to the students of the School of Medicine, and offer excellent opportunities to students intending to practice in the country to familiarize themselves with dental operations.

ANNUAL APPOINTMENTS.

At the close of each session the following annual appointments are made from among the graduates of the school :

TO THE UNIVERSITY HOSPITAL.

Superintendent.
Assistant Superintendent.
Three Resident Surgeons.
Two Resident Physicians.
Two Resident Gynecologists.
One Resident Pathologist.
One Ambulance Surgeon.
One Clinical Microscopist.
Two Dispensary Physicians and Fifteen Chiefs of Clinic.

TO THE MATERNITY HOSPITAL.

Two Resident Physicians.

TO BAY VIEW ASYLUM.

Two Resident Physicians.

A number of students are appointed each year, at the close of the session, as Clinical Assistants. The fee for such hospital residence is *one hundred and twenty dollars* per year, PAYABLE IN ADVANCE. This covers lodging, light and fuel.

Several appointments to other hospitals of Baltimore are made annually, to which graduates of the University of Maryland are eligible.

PRIZES.

FACULTY PRIZE.—To stimulate zealous study among the candidates for graduation, the Faculty offers a Gold Medal to the candidate who passes the best general examination.

SURGICAL PRIZE.—Prof. Tiffany offers a case of surgical instruments to the graduate who passes the best examination in Surgery.

REQUIREMENTS FOR MATRICULATION.

The regular Matriculation Examination instituted by this University in 1891 has been modified to accord with the rules taking effect July 1, 1892, established by the Association of American Medical Colleges, of which Association this Faculty is a member.

Subject to the exceptions noted below, all candidates for matriculation will be required to pass an examination comprising:

1. A composition written in English of not less than 200 words.
2. An examination in Latin upon such elementary work as the student may offer showing a familiarity usually attained by one year of study; for example, the reading of the first fifteen chapters of Cæsar's Commentaries and the translation into Latin of easy English sentences involving the same vocabulary.
3. An examination in Algebra and Higher Arithmetic.
4. An examination in Elementary Physics.

It is provided, however, that students, matriculates or graduates of recognized Colleges of Literature, Science and Arts, or graduates of High Schools of the first grade, or of Normal Schools supported by the different States, shall be exempt from the requirements of this examination.

It is furthermore provided that before entering upon the second year studies, students shall be required to pass a satisfactory examination in the above branches.

It is furthermore provided that students passing the entrance examinations, as provided by the statute of the State of New York, shall be exempt from the requirements of this examination.

Applicants for matriculation desiring to avail themselves of the above provisions of exemption from matriculation examination are advised, in order to save time, to bring with them a diploma, certificate or other evidence of their qualification for exemption.

Students holding degrees in Arts or Science may, at the discretion of the Faculty, be given advanced standing.

STATUTES.

1. All tickets must be taken out at the beginning of the session. Tickets for completed courses will be issued by the Dean at the end of the session. Laboratory tickets and tickets for practical anatomy must be countersigned by the proper demonstrators and directors. Unless properly countersigned a ticket will not be accepted as evidence of a completed course.

2. Every candidate must have passed examinations in the various branches of medicine taught in this school, or show satisfactory evidence of having done so in other schools, and also produce evidence of satisfactory work in practical anatomy and the various laboratories. Attendance upon all clinical lectures is obligatory.

3. Any student failing in more than one-half the yearly examinations shall be required to repeat the work of the year and shall not be allowed to advance with his class. Students deficient in less than one-half the year's work are permitted to make up their deficiency in the fall examinations. All students are required to stand the spring examinations unless excused by the Dean.

4. The graduation fee, which is \$30.00, must be deposited with the treasurer before the candidate can be admitted to final examination.

5. Examinations for the degree of Doctor of Medicine are conducted by the several professors. Candidates failing to graduate are not required to again appear for examination in those

branches in which they have obtained the required percentage.

6. The judgment of the Faculty upon the fitness of a candidate is based upon their knowledge of his general attendance and industry, character and habits, as well as upon the result of his final examination.

FEES FOR THE FOUR YEARS' GRADED COURSE.

Matriculation (paid each year).....	\$ 5 00
Practical Anatomy (paid two years).....	10 00
Full course of lectures (first year).	100 00
“ “ “ (second year).....	100 00
“ “ “ (third year)	100 00
“ “ “ (fourth year).....	100 00
Laboratory Fee paid each year ..	5 00
Graduation Fee.....	30 00

Tickets for any of the departments may be taken out separately. The fee for these branches is \$25 each.

The Laboratory courses may be taken by matriculates not following the regular courses. The fee for these is \$20 each.

All fees are payable in advance.

NOTICE TO STUDENTS.

The personal expenses of students are at least as low in Baltimore as in any large city in the United States, board being obtainable at from \$3 to \$6 per week, inclusive of fuel and lights.

Students will save time and expense upon their arrival in the city by going direct to the School of Medicine on the University grounds, N. E. Corner of Lombard and Greene Streets, where the superintendent of buildings, who may be found at his office on the premises, will furnish them with a list of comfortable and convenient boarding-houses suitable to their means and wishes.

The Dean will, if desired, attend to the collection of checks and drafts of students.

For further information apply to

R. DORSEY COALE, PH. D., *Dean of the Faculty,*

17 West Mount Royal Avenue, Baltimore, Md.

SAMUEL CLAGGETT CHEW 1886-1909

**Sixth Department Chairman, Professor of Principles and
Practice of Medicine, Bedside Clinician,
Leading Nineteenth Century Medical Educator in the
Old Medical School, Innovator of an Auscultatory Sound,
Patron of the Arts**

This biography is reprinted from the Spring 1982 Bulletin.

Samuel Claggett Chew was born in Baltimore, July 26, 1837, the son of Dr. Samuel Chew, who was then Professor of Materia Medica and Therapeutics of the University of Maryland School of Medicine. His mother was Henrietta Scott Chew, who, with her distinguished husband, provided a home where cultural refinements and educational attainments dominated the lives of parents and children. His great grandfather, Thomas John Claggett, was the first Episcopal Bishop of Maryland and the first Bishop of any church to be consecrated in America. Chew was educated at Princeton where he received his Bachelor of Arts degree in 1856. On returning to Baltimore, he undertook the study of medicine first under the direction of his father, who was Professor of Medicine and the Practice of Medicine. He completed his studies which consisted of short fall and spring sessions for two years at the University of Maryland Medical School. Chew graduated in 1858. This was followed by a series of studies for his Master of Arts degree at Princeton which was awarded in 1859.

After his formal education, Chew settled and practiced in Baltimore except during 1864 which he spent in study abroad in Italy and France. After his return from Europe, Richard McSherry was appointed to the Chair of Medicine in 1864, following the elder Chew's death in 1863. Simultaneously, Samuel Claggett Chew assumed the Chair of Materia Medica

Chew had a broad knowledge of the general literature, both classic and modern, and he was enthusiastically devoted to all that is best in art and in science. His knowledge of history and of politics and his keen sense of the responsibilities of citizenship made him a true educator in Baltimore.

Chew held the Chair of Materia Medica and Therapeutics for twenty-one years (1864-1886). Now these disciplines are known as Pharmacology or, in part, as Clinical Pharmacology. During the early years of his academic tenure, Chew took pains to inform himself of the most effective therapeutic methods, their limitations, the unwarranted uses of drugs, and the need to teach materia medica in relation to the patient's problems. It was essential that he be a broadly versed clinician with competency in pathology, anatomy and the few other known basic sciences. He achieved scholarly competence through study of the available literature which made him a well-informed and popular professor. Chew utilized didactic lectures in his teaching of Practical Therapeutics. In the medical curriculum of that era, the only direct clinical experience was through brief patient contact during the advanced course in medical practice. Unfortunately, students had only a modicum of patient contact during the short curricular sessions and most of their clinical experience was acquired during their free time while working as apprentices with established physicians in the community.

Chew was characterized as one "whose teaching was elegant, varied and marked with profound scholarship. His intimate knowledge of the English language, his



Figure 1. Samuel Claggett Chew. Taken from group picture of Baltimore Monthly Medical Reunion, February 10, 1881.

remarkable powers of analysis, the breadth of his medical learning, his keen sensing of the students' needs and limitations, and his splendid presence and rich voice made his didactic lectures models of the teachers' art." (Mitchell, C. W.: Dr. Chew, the Teacher. *Bull. Med and Chi. Faculty*, vol 7: 77-80, 1914-15) The value of his lectures and those of any good teacher may be judged by the ability of the listener to record logical and objective notes from which useful data can be retrieved. To this end, Chew was a master.

During his twenty-one years as Chairman of *Materia Medica and Therapeutics*, Chew performed no laboratory studies but prepared numerous papers and reviews of important current therapeutic problems and expressed personal opinions based on experiences with patients and his knowledge of the literature. His initial writings in 1862 dealt with the contagiousness of phthisis (tuberculosis), in which he concurred with Lemaire, a distinguished French clinician, that tuberculosis was contagious with spread from person to person. In another paper, he described the use of strychnine in a patient with anesthesia of an extremity and proposed that the drug acted upon the motor tract of the cord and not the nerves or muscles. In this patient, he noted abatement of the loss of sensation in several weeks and concluded that strychnine was responsible. This may well have been the spontaneous remission of a case of multiple sclerosis. (Ref.)

In another paper, published in 1867, he described a "bellows" cardiac murmur heard

just under the right scapula in a 31-year-old sailor with tuberculosis. The murmur was described as systolic (with the first heart sound). Present over the posterior surface of the right side of the thorax, it was best heard at the inferior angle of the right scapula and appeared to be synchronous with a similar murmur heard over the aortic area anteriorly. At autopsy, in addition to the tuberculous lesions in the right upper lobe, there were two hard masses, about the size of hickory nuts, consisting of "calcareous residuals of tubercles" which pressed directly upon a branch of the right pulmonary artery. This, he astutely surmised, offered an obstruction (impediment) to the free passage of blood which accounted for the blowing murmur heard with each systole of the ventricles. (Ref. 1860) This is an example of excellent use of clinical skills and may rank Chew among the first to explain adventitious vascular sounds based on obstruction to blood flow.

In the same series of clinical cases, Chew described the clinical and pathological findings of a case of yellow fever. The patient, a sailor, died in the University Hospital on July 19, 1860, after three days of hospitalization. Confirmation of diagnosis was based on the presence of many oil globules in the liver since, at that time, the characteristic pathologic alteration of yellow fever was regarded as acute hepatic fatty degeneration. Before the end of the nineteenth century, William T. Councilman, a 1878 Maryland graduate, described the characteristic hepatic pathologic findings of yellow fever. Three ma-

jor contributors to the conquest of yellow fever were Maryland graduates and students of Samuel Claggett Chew. They were Henry Rose Carter (1879), James Carroll (1891) and Councilman. Without doubt, Chew's teaching was an inspirational influence for them.

A particularly interesting paper of Chew's on bloodletting was published in 1869. He surmised, based on the writings and beliefs of others, that venesection was greatly overused. It was regarded as useful for treatment of typhus patients when there is "great excitement, insensibility, excessive heat and extreme vascular tension." In some cases, he advocated it for apoplexy or stroke. Chew attempted to define indications when venesection would relieve an abnormal manifestation such as pulmonary congestion in heart failure, and hypertension or hypervolemia (term not then in use) in cerebral hemorrhage. Medicine had not yet advanced to an understanding of pathophysiology which lends additional credence to some of Chew's proposed beliefs. Some advocated bloodletting in uremic states and puerperal eclampsia. Chew favored its use in pneumonia and regarded this indication as "well established" for relief of dyspnea and the "oppressed laboring action of the heart." He viewed the beneficial action of bloodletting in pneumonia as an effect upon "mechanical principles by removing a mechanical obstruction in accordance with the laws of physics."

In a delightful paper on "old age," the clinical findings of a near century old lady were described, including the use of small doses of belladonna and potassium bicarbonate which often relieved vesicle irritability of cystitis. In this geriatric article, Chew accepted the prevailing views of Rokitsky (Ref.) that fatty degeneration of tissues was the mechanism which led to death.

Chew published on the pathologic causes of jaundice and included gallstones as a cause of biliary obstruction. Pancreatic cancer was not mentioned even though Charcot and Courvoisier had already published on the subject. Duodenitis was thought to obstruct flow of bile. Chew did propose that there were two general types of jaundice, hematogenous and hepatogenous with either alterations in the blood or obstruction. These concepts were not too far off the mark.

Pneumonia, a common, often fatal disorder of the era, was accurately described and the case reports were vivid and informative. He regarded quinine and aconite to be useful

therapeutically since they checked temperature and lowered arterial tension, respectively. Quinine was said to "check the amoeboid movement of the white corpuscles and the proliferation of cells" which explained its beneficial action at the onset of pneumonia! Chew noted that bilateral involvement or pleural effusion were poor prognostic signs in pneumonia. In a strange case, he described a remarkable spontaneous recovery when a patient with empyema expectorated copious amounts of purulent material which was not explained (1877). Possibly this patient might have had a large abscess of the lung with associated empyema, a bronchopleural fistula or an hepatic abscess which evacuated its contents via the bronchial system. This article had been preceded in 1873 by his review of the indications for thoracentesis and the technique of aspiration. The three indications for thoracentesis were: (1) bilateral effusions; (2) unilateral effusion which formed rapidly associated with dyspnoea and other symptoms; and (3) when grossly purulent fluid (empyema) was suspected. These were careful and conservative criteria. He described the difficulties of detecting fluid in the pleural cavity and stressed that aspiration was not an extreme procedure and should be employed before it was too late. Tribute was paid to Rene Laennec for his prophecy that paracentesis of the thorax would be common and useful in proportion to the proper employment of auscultation as a diagnostic aid. Why do we continually forget! Chew, like others, stressed the importance of a flat percussion note as an important bedside aid. Some considered it possible to distinguish between serous and exudative fluids such as empyema by degrees of flatness of the percussion impulse. William Power, the predecessor of Chew's father, was the first to introduce the technique of percussion and auscultation in clinical instruction and practice at the school in 1841.

Two of Chew's papers during this phase of his career dealt directly with problems related to materia medica and pharmacy. In 1874, he discussed the value of iron therapy as proposed by Creuse of Paris, who later moved to New York. A syrup of the iodide of iron was made by mixing pieces of iron wire with iodide and distilled water. The resultant green colored concoction often upset the most stable of stomachs. Creuse's preparation consisted of potassium citrate added to a solution of iodinated iron. Often tincture of cinchona was given in combination with an iron

preparation. The resultant stringent solution was said to be reliable for treatment of erysipelas. Chew does suggest that a placebo effect may have been the true "tonic" action. Croton-chloral hydrate (croton simulates crotonic acid in chemical composition) was recommended in cases of tri-facial neuralgia and for aiding the sleepless patient. Chloral hydrate alone was said to adversely affect the heart. Another medication, *Eucalyptus globulus*, an extract from the leaves and bark of the eucalyptus tree, was said to relieve paroxysms of malaria when quinine had failed; it also was a tonic for the appetite, accelerated the pulse and, in large doses, was a sedative to the circulation.

A particularly informative paper reviewed the value of digitalis in cardiac disorders (1875). Digitalis was described as a cardiac tonic. He rather astutely stressed that "dilatation of the left ventricle" was its most useful indication and, "in cases of pure uncomplicated hypertrophy," digitalis was inevitably injurious. Chew stressed the importance of auscultatory findings to guide therapy and pointed out that, in mitral regurgitation, there was a favorable reaction to digitalis with a good prognosis. The work of European investigators who noted the effects of digitalis in frogs was quoted and that of Traube, who made dynamic measurements of man. Chew's measurements were made at the bedside; he admonished that, if digitalis was given with no scientific aim, the physician may have "sped the shaft which quivers in the heart."

Chew exhibited a diversity of medical knowledge and interests in all of his writings. A paper published in 1879, "Fatty Disease of the Heart," showed clearly that his clinical bedside knowledge of cardiac disorders was clear and comprehensive. Such manifestations as feeble and faint cardiac sounds, including the first heart sound, weak pulse, pulmonary rales and cardiomegaly, were all clearly described. The cause was ascribed to fatty degeneration of the heart, whether post-mortem examination was performed or not, a weak point in his interpretation. Chew accepted fatty degeneration as the major cause of cardiac disorders. Primary cardiomyopathy, myocarditis, or myocardial insufficiency with fibrotic changes resulting from episodes of myocardial infarction or chronic infection would have been the current interpretation in most cases. Chew was influenced by the writings of Stokes of Edinburg who, as early as 1846, proposed the fatty degeneration hypothesis. As early as 1815, Corvisart,



Figure 2. Samuel Claggett Chew. Taken during his tenure as Professor of Principles and Practice of Medicine, 1886-1909.

the physician to Napoleon, had carefully described the manifestations of carditis, which seems to have eluded Doctor Chew.

His ability to differentiate patients with (1) pericardial effusion and (2) pulmonary emphysema from fatty degeneration of the heart seems clear. Just what was meant by "simple atrophy of the heart" is vague. It was specified that valvular heart disease was responsible for cardiac dilatation. In this paper, there is reference to angina pectoris and the favorable effect of "nitrite of amyle." Even sudden death is described in "Fatty Heart Disease," the only mistake being misinterpretation of the pathologic cause; myocarditis or myocardial infarction would fit much better, but that was 1879.

In an introductory address to medical students in 1871, he spoke of the need for them to become aware of the known fundamental facts in chemistry, anatomy and physiology and to commit to their minds the contributions of Brown-Sequard and Claude Bernard in the anatomical structure and functions of the nervous and digestive systems. Even after competence had been gained in the manifestations of the known clinical disorders, he advised that often "no positive answer can be given, and our only guide to action must be an estimate of probabilities."

(Chew, S.C.: Introductory Address, October, 1871, Sherwood and Co.) Here Chew was focusing upon the need to keep an open mind and rely on clinical suspicion. Dr. Randolph Winslow, an entering medical student in 1871, recalled Doctor Chew's aphorism during this lecture. "It has been said the poet is born, not made; but this is not true of the physician. The physician is made, not born." Doctor Winslow later became one of the school's most distinguished chairmen of surgery.

In this remarkable paper, Chew stressed the importance of auscultation, particularly of the heart. Although he did not use the term "inching," he clearly described the necessity to move the ear or stethoscope "below to upward and find the sound increasing in loudness and harshness and finally attaining its greatest intensity at a certain point at the base of the organ." In this clinical case description, Chew had described a typical case of aortic stenosis (Chew). "Inching" is now an accepted bedside maneuver which Dr. Proctor Harvey has so effectively stressed in his clinical teaching.

Chew had the full respect of the medical faculty and of the entire medical community. His qualities as a physician and medical educator paralleled that of his father from whom he inherited natural attributes of high quality. The elder Chew was a guiding spirit of the University of Maryland School of Medicine as was his son. Changes in the character of practice and teaching of medicine were said to change radically during the two score years which separated the chairmanship of the Department of Medicine between father and son. During Chew's medical life, physiology was born through the pioneering work of Claude Bernard (beginning in 1846); the golden era of microbiology began in the 1880's with Koch, Pasteur, Lister, Smith and Welch in the forefront. The advances in chemistry by Davy, Faraday and others were made earlier in the nineteenth century. The younger Chew adapted well to these changes in his teaching although he was not personally involved in laboratory investigation. His basic observations were clinically derived.

From 1874 to 1879, he was Dean and Executive Officer of the Medical Faculty while he held the Chair of *Materia Medica*. In 1874-75, and again in 1877-78, Doctor Chew was Vice President of the Medical and Chirurgical Faculty of Maryland. In 1879-80, and for a second time in 1898-99, he was elected to the presidency of that body (Cordell). He was examining physician to the Equit-

able Life Insurance Society and member of the Executive Committee of the Baltimore Academy of Medicine in 1880.

In 1886, Professor S. C. Chew was transferred by the Dean and Faculty to the Chair of the Principles and Practice of Medicine made vacant by the death of Professor Richard McSherry in 1885. Professor Isaac E. Atkinson was transferred from the Chair of Pathology to that of *Materia Medica*.

During his tenure as chairman, while teaching at the bedside or in the clinical amphitheater, Chew's method of instruction was most lucid and inspiring. "The quietness, refinement and depth of his sympathy for the poor and suffering, the gentleness of his voice and of his touch, the clearness and precision of his conclusions as to diagnoses, prognosis and treatment left upon the student mind impressions never to be forgotten. Students felt that they were in the presence of one whose high attitude of thought" (C. W. Mitchell). This sense of achievement gained for him an attitude of reverence. After their graduation, students called upon him for consultations in difficult cases because of the affection and confidence which he had instilled in them. There were many long years of consultative work in the sick room of the well-to-do and poor alike. (Bull. Med. and Chir. Faculty, vol. 7: 1914-1915, 77-83) Thayer, a distinguished clinician of the Johns Hopkins faculty, described Chew as modest, thorough and unasserting with exceptional good judgment founded upon his natural abilities and training. He regarded Chew as an able diagnostician and a "remarkable good physician" and a teacher who exerted a very wide influence upon his fellow men. These comments were made by C. W. Mitchell and W. S. Thayer on the occasion of the presentation of Doctor Chew's portrait to the Medical and Chirurgical Faculty on November 14, 1914.

During his chairmanship, Doctor Chew never faltered in his devotion to teaching and he adhered to the highest standards of medical practice. Occasionally, he would escape from the poise of his inherited Quaker background. Once a student spoke to him of Professor Chisolm's (Professor of Ophthalmology) practice to auscult the heart before using chloroform (Bond: "When the Hopkins Came to Baltimore") Doctor Chisolm was said to apply his ear directly to the chest of a patient prior to an eye operation and say "heart perfectly normal, go ahead with the anesthetic." Also, he followed the practice of continuing the use of chloroform after a patient's

heart stopped beating during an eye operation and seemed to get away with it. (Bond) On hearing this, Chew angrily remarked, "Chisolm auscultating the heart, Chisolm don't know any more about auscultation than a cow!" Chew was greatly respected. Bond, a medical student at Maryland from 1880 to 1882, felt that Professor Chew taught the use of remedies in sickness as well as anyone and regarded him as one of the ablest practitioners in the country. Students spoke of one fault attributed possibly to his Quaker ancestry. "He would not fight for his students in the faculty meetings in the matter of prizes, hospital appointments, etc., at graduation," (Bond) "Howard," (Professor of Gynecology and Pediatrics, the first established in the U.S.) they said, "will fight for his students to the last ditch." (Bond)

In a delightful account of Baltimore in the eighties and nineties, Janvier (Ref.) described how busy practitioners kept from two to four horses in their stables and many had Irish or colored drivers who were characters. There were livery stables on streets and alleys in every part of Baltimore.

Physicians of these old days were described as being on the streets day and night and "knew nothing of the semi-leisure of the specialists of today" (speaking of 1933). Like apothecaries, physicians had night bells and speaking tubes at their front doors.

Janvier described a handsome "lot" of men who were old Baltimore physicians, such as Samuel C. Chew, N. W. Kneass, Christopher Johnson, Ridgely B. Warfield, I. E. Atkinson and others.

Janvier devoted a short section to bearded men in Baltimore. Whiskers were worn commonly in the late nineteenth century described as Buffalo-Bill type, Van Dyke, full-blown, mutton-chop, and noble full beard, the flowing whisker type, close-cropped and rounded, and others. Samuel C. Chew was mentioned among the physicians with "whiskers of special interest." (See Figure 2.)

During and after his tenure as Chairman, Professor Chew was frequently asked to speak and present his views because of his cultural attainments and the leadership role which he played in medicine in Baltimore. He was the principal speaker on various commemorative occasions. In 1878, he addressed the Medical Alumni Association and gave a delightful and sensitive memorial tribute of Nathan Rhyno Smith who died on July 3, 1877. Professor Smith, or the "Emperor" as he was known, held the Chair of Surgery at Maryland for



Figure 3. Samuel Claggett Chew. Picture of portrait which was completed in 1914 and presented to the Medical and Chirurgical Faculty on November 14, 1914.

almost fifty years and made lasting contributions to surgery, such as his invention of the lithotome, the anterior splint and other first contributions on management of fractures of the lower extremity. Chew was very proud as a younger man when Professor Smith remarked to him, "Among all whom I have known in my whole life, I have never known a wiser or better man than your father" (Chew, S. C.: *The Chair of Medicine in the University of Maryland*, Williams & Wilkins, pp. 37-44, 1908)

Another scholarly writing of Chew's was his tribute to Professor George W. Miltenberger (Chairman, Obstetrics) on the occasion of the presentation of his portrait to the Medical and Chirurgical Faculty in 1908. (Chew, S. C.: *Addresses on Several Occasions*. The Deutsch Company, 1906)

Two notable papers merit additional attention. In his Presidential Address to the Medical and Chirurgical Faculty in April, 1880, Chew spoke of medicine in the past and future. He remarked how medicine had changed from the early nineteenth century when medicine was based mainly upon symptoms and how it had progressed to the solid factual foundation of physiology. Laennec was placed on the highest pedestal and to him



Figure 4. Residence of Samuel C. Chew at 215 West Lanvale Street, late nineteenth century.

was attributed the gift to detect "thoracic diseases with certainty at the period when treatment is most applicable and beneficial" (Chew, 1880) Were Chew living in 1982, he would insist that the patient first be carefully examined before undertaking SMA 6, roentgen and computerized procedures. In his address, Chew spoke of Heberden's great work in Cambridge, known not only for his descriptions of angina pectoris and "Heberden's nodes" but his accurate delineation of various disease pictures. Also, he commented about Heberden's errors of interpretation of physical findings in consumption (tuberculosis) and his view regarding the cause of cerebral apoplexy. Heberden died in 1801, well before the work of Laennec

In stressing the need for basic knowledge of anatomy, physiology, pathological anatomy, Chew prophesized that in the future, there would be "more delicate and subtle methods of examinations than any we now possess, will foreshadow impending diseases, or detect them at earlier and more remediable periods of their courses" He predicted the successful arrest of the histologic changes in inflamma-



Figure 5. Residence of Samuel C. Chew, Roland Park, 3 Midvale Road, where he resided at the time of his death.

tion and that "epidemic disease the nature and origin of which are involved in obscurity, the pestilence that now 'walketh in darkness' will be set in clear light to be blotted from the sum of human ills forever" This was said in 1880. A similar talk was presented by Chew to the Medical and Chirurgical Faculty on "Medicine in the Nineteenth Century" in 1906. In it he spoke of Jenner's work on smallpox vaccination and its impact on medical practice. He included Dr. John Crawford's introduction of vaccination to Baltimore in 1901 and deprecated the criticism which Jenner had received. Laennec was cited for his great contribution to medical science as was Richard Bright for his work on nephritis and dropsy, Doctors Morton and Warren for their work on anesthesia and "painless surgery" and the works of Pasteur, Koch, Eberth, Fraenkel, Friedlander, Lister, Klebs, Loeffler, Pfeiffer and Haffkine on tuberculosis, cholera, typhoid fever, pneumonia, diphtheria, influenza and plague. The advances made in modern surgery were directly attributable to the discoveries of anesthetics and development of bacterial pathology and antisepsis. The current therapeutic advances and benefits of bromides in neurotic disorders were described as were the use of arsenic in pernicious anemia, the salicylates and the alkalines in rheumatism, the skilled use of digitalis, the antitoxin treatment of diphtheria and the hydro-therapeutic treatment of typhoid fever. The helpful relief of pain by the hypodermic needle in renal or biliary calculi and the instant relief of the agony of angina pectoris by amyl nitrite were included. Some of these medical and surgical practices in the early twentieth century are now obsolete; others have stood up or have provided leads from which other advances and known cures have

developed Chew was a master at clearly and concisely reviewing and objectively describing the writings of others. That is an art.

In another address in 1906, Chew criticized most medical schools, including his own, "whose students with respect to chemistry have never handled a test tube or a retort, as regards their physiology had never seen the action of gastric juices, the pulsation of the heart, the circulation of the blood and the response of any nerve to stimuli, as regards surgery, had never lanced an abscess, as regards medicine proper, had never heard a crepitant rale or a cardiac murmur." This is now happening in American medical education. Doctor Chew said, "Now all of this has changed, attendance on the course of instruction is obligatory, laboratory work for chemistry and histology is required for all students, bedside instruction in surgery and medicine, clinical teaching, that is, in the true and liberal sense, is imparted to all. It is incredible that the former system could have maintained for so long. Speaking in behalf of the University of Maryland that condition of things will never be returned to" (Chew, S. C.: *Medicine in the Nineteenth Century*, Book on Addresses. The Deutsch Company, 1906). Chew would be a very unhappy man today.

During his later years, Doctor Chew contributed a section to Pepper's *System of Medicine*, a popular text of the day. On the death of his father, he completed a series of student lecture notes on medical topics which was unfinished. This is an informative series on

clinical manifestations of various medical disorders and practical therapeutics.

Doctor Chew was a member of the University of Maryland Board of Regents and twice President of the Medical Alumni Association in 1877-78 and 1893-94. For a number of years, Doctor Chew served as a consulting physician to the Johns Hopkins Hospital. Professor W. S. Thayer said of Doctor Chew, "He has presented and presents today the figure of a truly superior man, a man whose intellectual superiority has not only made him a very wise doctor but has given him the power to use his wisdom and his humanity in such a manner that they may exert their greatest effect." (Bull. Med. Chir. Fac. 7: 77-83, 1914-15). One of his community interests was the Peabody Institute which he served for several years as President of the Board of Trustees. He was a charter member of the Society of Colonial Wars in Maryland, served for many years as surgeon of the Maryland Society, and, in 1893, was elected Surgeon-General of the National Society. He was a member of the Episcopal Church. Chew enjoyed the intimate friendship and almost daily companionship of Mr. William T. Walters, who founded the art gallery.

During a recent conversation with W. Houston Toulson, M.D., Professor Emeritus of Urology, Pete recounted that Samuel C. Chew, when asked if he ever invoked help from the Divine Being in his diagnostic practice responded, "Yes, but not until I have exhausted all the talents given me by the Divine Being."



Figure 6. Type of livery used by well-established citizens in Baltimore in the late nineteenth century. (From Janvier, M.: *Baltimore in the Eighties and Nineties*. H. G. Roebuck and Sons, 1933.)

Chew's first wife was Maria Gibson, daughter of Patrick Gibson of Baltimore, whom he married on April 26, 1866. His second wife was Agnes Robb Marshall, daughter of Alexander John and Ann Elizabeth (Robb) Marshall of Warrenton, Virginia, and Baltimore; their marriage was on June 5, 1884. Mrs. Chew was born on November 8, 1858, and died well into the twentieth century on June 5, 1935. There were three sons: John Marshall Chew, born August 20, 1886; he died October 22, 1901. Samuel C. Chew, Jr., born August 31, 1888 and died January 15, 1960. Henry Dorsey Chew, a third son, was born January 15, 1891 and died March 24, 1965. The family is buried at Greenmount Cemetery, Lot no. 6, in the Hemlock section.

In 1909, Chew retired as Chairman of Medicine. These later years were spent at his residence in Roland Park, 3 Midvale Road (see Figure 5). He continued a limited practice of medicine and maintained an enthusiastic interest in community affairs. For several years, his health waned and he was unable to leave his home for the last six months. Doctor Chew died quietly at his home on March 22, 1915. Services were held for him at Mount Calvary Church, where he served as vestryman, and were followed by burial in the Greenmount Cemetery on March 24. Among the honorary pallbearers were prominent



Figure 7. Grave site marker of Samuel C. Chew (left), Greenmount Cemetery (Lot #6, Hemlock Section).

members of the medical profession which included Charles W. Mitchell, Thomas A. Ashby, Randolph Winslow, R. Dorsey Coale, J. M. T. Finney, William H. Welch and W. H. Thayer.

The death of Samuel C. Chew brought an end to seven decades of distinguished medical teaching of students and graduates of the University of Maryland which began with his father in 1841.

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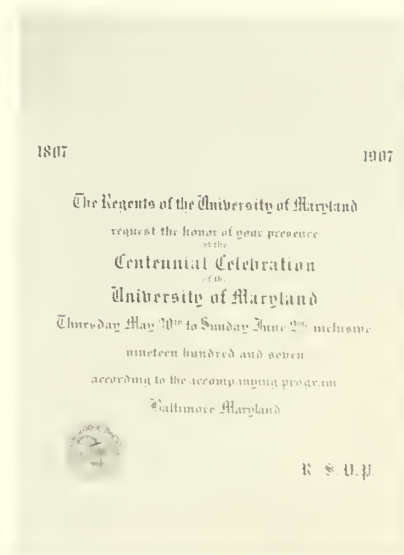
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CENTENNIAL CELEBRATION

On May 30 and 31, June 1 and 2, 1907, the University of Maryland Medical School Faculty was joined by students, members of the profession, prominent citizens and benefactors for a commemorative celebration. Professor John C. Hemmeter was president of the centennial program and with his committee, arranged academic exercises and social activities. Davidge Hall was gaily decorated for the occasion. Shown on the following pages are photographs of Davidge Hall, the invitation announcing the celebration and two orations delivered by Samuel Claggett Chew, the medical school's sixth Departmental Chairman of Medicine. In his speech on January 22, 1907, Doctor Chew briefly referred to the lives and work of those persons who had held the Chair of Medicine beginning in 1807. His second speech, delivered on May 30, 1907, was one of the Opening Addresses for the Centennial Celebration.



Invitation of the Regents of the University of Maryland announcing the Centennial Celebration.



Davidge Hall at the time of the Centennial Celebration on May 30, 1907.

1807

1907

Omnia probate

Bonum tenete

The Centennial Celebration

OF THE

Foundation

OF THE

University of Maryland

May 30 and 31 June 1 and 2

1907

Memorial Volume

PUBLISHED BY THE
WILLIAMS & WILKINS COMPANY
BALTIMORE
1908

THE CHAIR OF MEDICINE IN THE UNIVERSITY OF MARYLAND.

AN ADDRESS DELIVERED BEFORE THE ALUMNI OF THE
UNIVERSITY, JANUARY 22, 1907, BY SAMUEL C.
CHEW, M.D., PROFESSOR OF THE PRAC-
TICE OF MEDICINE.

MY FELLOW ALUMNI:—Eight years ago the pleasant duty was assigned to me of addressing many members of the medical profession on the occasion of the Centennial Anniversary of the Medical and Chirurgical Faculty of Maryland, an institution which antedated in its foundation that of the University of Maryland by just that period the lapse of which has brought us to the Centennial birthday of our Alma Mater. Today I am here to offer, on behalf of the Faculty of Physic of the University a salutation and a most cordial welcome not only to members of my own profession, but also to the other Faculties, the other teachers and the Alumni of the several schools which now constitute this University, and to all our invited guests of every calling who, by their presence here, are kindly showing their interest in our celebration and are rejoicing with us in our joy.

And now the thought which should perhaps most stir the hearts of all of us is not merely that our University has attained its one hundredth year, though that is a notable consideration; nor that its Department of Medicine has been in continuous and unceasing operation for a century, though that is a source of pride; nor that its Department of Law, after a period of suspended activity awakened thirty-seven years ago to full vigor and strenuous work, and, pursuing its course of constantly increasing usefulness and reputation ever since, is known and honored throughout the broad domain of the profession of Law; nor again that in accordance with examples set by other Universities the Department of Medicine has added to itself Schools of Dentistry and Pharmacy; not by any one of these reflections are we so much stirred and enkindled to greater endeavors in the future as by the

fact that through the amalgamation recently accomplished with St. John's College in Annapolis an Academic Department of Letters and Sciences has been added to the other schools, the keystone has been placed in the arch of her structure, and the University of Maryland is now and will be henceforth, we trust, a University not in name only, but in actual fact, and as such she starts upon the second century of her life and growth. *Faustum sit felixque.*

And surely it is a reflection of deep interest that the time of this full development, of this assumption of all the characters and conditions of a University, should coincide with the beginning of the second century of the existence of the Institution.

Will it be thought too great an indulgence of fancy if we hold that by the union with St. John's this University as a whole adds to its years those of the early history of the older institution? May we claim a foundation dating back into the 18th century, as that of St. John's actually does, for it was founded in the year 1784? Or, while we are giving rein to imagination, may we allow it still freer play and claim that through the evolution of St. John's from the earlier King William's School, which took its origin in 1696 in the reign of King William III, after whom it was named, our University has had a continuous life to the present day from the 17th century, that great century which included a part of the "spacious times of great Elizabeth," and which witnessed the first establishment of Anglo-Saxon civilization on this continent, the commemoration of which is now being made at Jamestown?

If, however, such claims be not allowed and we must content ourselves with a century, yet even the period of one hundred years is in this new world enough to impart the dignity of age to any institution. We cannot, indeed, vie in this regard with schools of the old world; with

"those twins of learning, Ipswich and Oxford;" and who that has ever visited Oxford does not long to see again

"That sweet city with her dreaming spires,"

which another and a greater poet praises as

"So famous,
So excellent in art and still so rising
That Christendom shall ever speak her virtue,"

and to which our country is more closely than ever bound by the Rhodesian scholarships.

We cannot vie with the five hundred and fifty years of Heidelberg of the Vaterland; or with the venerable University of Bologna, which was a seat of learning in the reign of Charlemagne and which has lately celebrated its thousandth birthday.

We have, however, age enough to give that the lack of which was so sadly lamented by the guilty king in the great drama; we have

"That which should accompany old age,
As honor, love and troops of friends."

But, better than any consideration of antiquity is this reflection, that now in the present time we find our University striving to make the best use of such means as she possesses, striving to increase her resources and her facilities for teaching, strengthening whatever weak points she may have, taking the initiative, as time and again she has done, in establishing new departments of instruction, and ever raising her standard of requirements higher and higher.

With these things already accomplished and with the determination that greater things shall follow, we may find satisfaction in the thought, not only that we are not *novi homines*, but that we are bound with our Alma Mater to the traditions of an honorable past, and to the hopes

and expectations of an honorable and greater future. What is wanted for the full realization of these hopes and expectations is an endowment worthy of the position which the University holds and has so long held among the educational institutions of this country, an endowment not sparsely or with a niggardly hand bestowed, but showered in abundant largesses upon the several schools and in proportion to their respective needs. If this University shall be dowered with even a moderate measure of such assistance in the way of endowments as comes to others, she will ask no points of any of them, but with better equipment thus obtained she will continue a generous rivalry with all of them in the great cause of advancing knowledge in every department of science, of literature and of philosophy.

If with but little assistance, with no private aid except such as has been afforded by her own Faculties, and no State endowment, so much has been accomplished as this University has to show, what may not be hoped for and expected when this community is more thoroughly aroused to a sense of the importance of the work which the University has been doing among themselves and their forefathers and predecessors for a hundred years? But a beginning has been made; light, which will brighten to the fullness of a better day, has been thrown upon the necessities which exist and upon the good that can be accomplished by adequately providing for them.

My Friends and Fellow Alumni, the University of Maryland is entering upon the second century of its existence. Will you allow me a brief personal note?

For the larger part of its first century I have been associated with it personally and by heredity. More than eighty years ago my father first entered its halls as a student of Medicine. Sixty-six years ago he was appointed to the chair of *Materia Medica* here, and afterwards succeeded

to that of the Practice of Medicine, which I have myself occupied, however unworthily, for twenty-two years; and the time draws near when in the order of nature it must pass to a younger incumbent.

With such associations in my mind and heart, you will pardon me for giving expression to a feeling of deep, sincere devotion to the interests and welfare of the University of Maryland.

I cannot expect myself to see more than only a little way—it may be a very little way—into the course upon which with such aid as it deserves and which I fully believe it will receive, it may advance in this opening century, but I rejoice to think that in all its departments of instruction its fortunes will still be entrusted for a long time to come, as I fervently hope, to the care and guidance of my younger colleagues who, by their ability, their knowledge, their energy and their zeal, will, with the blessing of Almighty God, bring to pass all that may be desired and hoped for in the future.

ADDRESS DELIVERED AT THE OPENING OF
THE CENTENNIAL CELEBRATION OF THE
UNIVERSITY OF MARYLAND,
MAY 30, 1907.

BY SAMUEL C. CHEW, M.D.

*Professor of the Practice of Medicine in the University
of Maryland.*

*Mr. President, Gentlemen of the Board of Regents of the
University, and of the several Faculties:*

The subject of the "School of Medicine," in the University of Maryland, having been assigned to me for consideration at this meeting, I think it best not to attempt the story of everything relating to the school which that term might imply, but to confine myself to some reminiscences and traditions connected with the chair of Practice of Medicine, which I have myself occupied for many years.

At the foundation of the school one hundred years ago the first physician appointed to the chair of Practice was Dr. George Brown, who was born in Ireland in the year 1755, and who in 1779 obtained his medical degree at the University of Edinburgh, which was then, as it has continued to be, a famous seat of medical learning, largely through the great reputation of the Monros, who were known successively as Primus, Secundus and Tertius, and who were followed by other teachers of distinguished ability down to John Hughes Bennett and George Balfour of our own day.

In 1783 Dr. Brown emigrated to Baltimore, where he attained great success as a practitioner, and where he was appointed to the chair of medicine in this school at its foundation in 1807, and was president of its Board of Regents until 1812.

Dr. Brown was the grandfather of the late George William Brown, Chief Judge of the Supreme Bench of this

city, and at one time an instructor in the School of Law in our University, and he was the great-grandfather of my friend Arthur George Brown, one of the most prominent members of the bar of Baltimore at present, whose hereditary connection by this twofold tie with the University of Maryland is, I am sure, a source of gratification to others of his friends who are here tonight as well as to myself.

Dr. Brown, though appointed to the chair of Practice, did not enter upon its duties, but resigned the position almost immediately and was succeeded in it by Dr. Nathaniel Potter, who was thus the first actual or active incumbent of the chair, which he filled from 1807 to 1843, the year of his death. I have no personal recollection of him, but there are two things, which, when I follow Prospero's counsel and look into "the dark backward and abysm of time," are among the very earliest engraven upon the tablet of my memory. One is the solemn tolling of bells which, on inquiring what it meant, I was informed, being then a little child, was for the death of the first President Harrison, who died, it will be remembered, just one month after his inauguration. The other record upon the tablet is that of someone at my home, I know not whom, uttering the words "Dr. Potter is dead." These two events of the long past have no connection with each other, except the fact that each is the record of the termination of a life.

Although, as stated, I have no remembrance of having ever seen Professor Potter, his face is yet very familiar to me, as it is to others here present, from the portrait of him which for many years has hung in the Faculty room of the School of Medicine. The attitude in which he is represented in the picture is that of a scholar holding in his hand a volume, which was one of his own works, "Potter on Contagion," as is shown in the picture. Now it is most interesting to see that in that book, a copy of

which is in our library and which was probably the author's favorite among his writings, he maintains the non-contagious character of Yellow Fever, a disease with which he was very familiar, for it had prevailed in Baltimore more than once during his professional life. It is especially interesting to find that in support of his opinion he brought forward the same kind of evidence which was adduced by the United States Army Yellow Fever Commission, as given in their report in 1901; the evidence being the application of handkerchiefs and other fomites which had been kept in contact with yellow fever patients, to others not laboring under the disease, with the result that it was not communicated to them. And he thus anticipated what has of late years been fully established by the labors of Dr. Walter Reed, Dr. James Carroll, Dr. Aristides Agramonte and that noble martyr to science and to humanity, Dr. Jesse W. Lazear, a name to be spoken with reverence, for it is haloed with a martyr's crown.

This anticipation of the truth is, I think, a most interesting fact in the history of this School and of Medicine.

The next incumbent of the chair of Practice was Dr. Elisha Bartlett, of Massachusetts, who was elected to it early in 1844, and who had had experience as a teacher of medicine in several schools, the last of which was the Transylvania University, in which he resigned his position to accept the call to Baltimore. Of him I have a faint, shadowy recollection. I can recall, and yet but dimly, his tall form and his strikingly intellectual countenance. He was a medical philosopher of admirable reasoning powers and high attainments. His treatise on the "Fevers of the United States," first published in 1842, should be in the library of every medical scholar, for it entitles him to a place among those great workers who were engaged in differentiating from each other the various forms of febrile disease, a place with Louis of Paris, and Sir William Jenner

of London, and Gerhard of Philadelphia, and James Jackson, Jr., of Boston.

Professor Bartlett's philosophical works are also of great value, his "Philosophy of Medical Science," published in 1844, and his "Inquiry into the Degree of Certainty in Medicine," in 1848.

It was said by Dr. Oliver Wendell Holmes that Bartlett's "Medical Philosophy" is as remarkable for elegance of style as for liberal and genial spirit and philosophic breadth of view. One passage I can recall as having impressed itself upon my youthful memory and imagination long years ago. The author is drawing a contrast between the various forms of charlatanry, which from time to time seek to rival medical science on the one hand, and legitimate, scientific medicine on the other. He likens them respectively to two kinds of illumination; in the one there is a noise, a rush, a burst into a myriad of coruscations which are soon extinguished, leaving behind them an obscuring cloud of smoke, which parts and is scattered, and these are his words: "Courage, my friends, look up, and there looking down upon us with their dear old smile of affectionate recognition, undimmed in their brightness and unchanged in their loveliness, the everwatchful stars." Their light represents scientific medicine.

In 1846 Professor Bartlett, in failing health, resigned his chair and was succeeded in it by Dr. William Power, a native of this city, who had taken his degree of A.B. at Yale in 1832, and of M.D. at this school in 1835, and he was thus the first alumnus of the school to occupy the chair of Practice in it. After his graduation here, he pursued his medical studies in Paris, under that brilliant corps of teachers consisting of Louis, Andral, Grisolle, Barth and the great pathologist Cruveilhier. Of these,

some had passed away when I was myself studying in Paris, twenty-five years later; but Grisolle and Barth, then old men, were still giving valuable and effective instruction, and Cruveilhier, having retired from his chair, could be seen setting an example of devotion on his way every morning to the services of his church.

When Dr. Power returned to Baltimore in 1840 he was known as a proficient in auscultatory diagnosis in which he had been well trained by Louis, and he was among the first to practice and teach that art and science here.

The story is told that once when a resident of Baltimore, suffering from some trouble of the chest, went to Paris to consult Louis, he was asked by that eminent physician from what part of America he came, and when he answered "from Baltimore," "Why, then," said Louis, "do you come all the way to Paris to consult me when you have William Power in Baltimore." Such was the impression which the pupil had made upon the teacher. I have a clear recollection of Professor Power, although his connection with this University ceased before I began the study of medicine. I can recall his intellectual face, "sicklied o'er with the pale cast of thought," and with that malady, pulmonary tuberculosis, to which he fell a victim when still comparatively young in his professional life, for he was only in his thirty-ninth year when he died. It is worthy of note that one who was so active in promoting the study and practice of auscultation, should have died of the same disease and nearly at the same age as Laennec, the great medical philosopher and discoverer, as he might be called, of auscultatory diagnosis. As a teacher, Professor Power was a strenuous and faithful worker, admired and honored by his students, and when laboring under the distressing conditions of his malady, constant dyspnoea and recurring hemorrhages, he still continued to meet his classes and to impart instruction until

in 1852 he was compelled to abandon the unequal contest and to resign his chair, his death occurring on the 15th of August in that year.

And here let me depart for a moment from the chronological order to pay a brief tribute to one who was allied by affinity to Professor Power, and was taught by him: I refer to that most accomplished physician and most admirable man, Charles Frick, who, though he never occupied the chair of Practice in this school, was engaged in clinical teaching here and would certainly have acceded to the chair had his life been prolonged. For he was skilful and instructive as a clinician, and, if I may modify a classic phrase, "*omnium consensu capax docendi*." He was my friend as well as my teacher, and to this day, though nearly forty-seven years have passed since his death, the lessons of professional learning which I derived from him recur to my mind. The way in which Professor Frick's life ended from devotion to a suffering fellow creature in the lowest walk in life is well known to many here, and it illustrates those words which were uttered by the divinest lips, "Greater love hath no man than this, that a man lay down his life for his friend."

When the chair of Practice became vacant in 1852, by the death of Professor Power, one was appointed to the place in regard to whom it is not for me to offer any words or any thoughts of my own. But how can I omit entirely from the category which I have been surveying one who gave the best years of his life and the richest stores of his learning and experience to the service and welfare of this school, and who, as my most faithful guide and as my wisest counselor was by me honored and beloved? For many years there had been a close and cordial friendship and affection between him to whom I refer and Professor Nathan Ryno Smith, that prince among the surgeons of his day, who had known many men in many places and of

various attainments and characters. When this friendship was sundered by death, Professor Smith said to me, "Among all whom I have known in my whole life, I have never known a wiser or a better man than your father." I add no words of my own, but I trust that I do not violate proper feeling in presenting to you a sentiment which was uttered by him before an assemblage in which, as in the one before me tonight, there were many members of the medical profession:

"There are other paths which lead more certainly to distinctions, honors and affluence than does medicine. There are other professions which may be more exempt from cares and disappointments. But where shall we find a pursuit more favorable than ours to the development and improvement of the best faculties of our intellectual and moral nature? Where shall we find an occupation for the few and fleeting years of life more conducive to progress in wisdom and virtue? To grow old engaged in the acquisition of knowledge was the wish of the wisest of the ancients. The sentiment is purified and elevated by referring it to a just and adequate motive. To grow old in the study of science for the purpose of doing good to mankind shows a desire worthy, not only of the wisest, but of the best and holiest of men."

Next in succession to the chair came one in 1864 who was well known to many here present, and known only to be honored and esteemed. I refer, as you know, to Professor Richard McSherry, who brought to the duties of his post an excellent training of mind and the fruits of large opportunities for observation in civil and military practice, for he had held the position of surgeon in both branches of the public service. His lectures were accurate in thought, scholarly in their structure and always fraught with valuable lessons which were deeply impressed upon his students.

At his death in 1885, one was called to his place who can say only this, that none can be more conscious than he is himself of the imperfections and deficiencies in the way in which the duties of that place have been performed, but as the time draws near at which the chair will again become vacant, a time which cannot be long deferred, he asks that he may be allowed to plead simply this, that he has striven to do his duty.

INTERIM PERIOD 1910–1913

The Chew era ended in 1910 with the retirement of Samuel Claggett Chew, who had directed the Department of Medicine from 1885 to 1909. His distinguished father, Samuel Chew, was the fourth chairman of the department whose tenure extended from 1852 until his death in 1863. Senior members of the Faculty of Physic at the school were Samuel C. Chew, M.D., L.L.D., Emeritus Professor of Medicine, R. Dorsey Coale, Ph.D., M.D., Professor of Chemistry and Toxicology and Dean of the Faculty, Randolph Winslow, A.M., M.D., L.L.D., Professor of Surgery, L. E. Neale, M.D., L.L.D., Professor of Obstetrics, Charles W. Mitchell, A.M., M.D., Professor of Pediatrics and Clinical Medicine, Thomas A. Ashby, M.D., L.L.D., Professor of Diseases of Women, J. Holmes Smith, M.D., Professor of Anatomy, John C. Hemmeter, M.D., Ph.D., L.L.D., Professor of Physiology and Clinical Medicine, Arthur M. Shipley, M.D., Professor of Materia Medica and Surgical Pathology.

ERNST ZUEBLIN, M.D.

Acting Chairman of Medicine

In this setting, Professor Ernst Zueblin served as Acting Chairman of Medicine for a brief period from 1911 to 1913, at which time Gordon Wilson, M.D., was appointed to the chair. Doctor Zueblin was awarded the Degree of Medicine from the University of Lausanne in 1903, after prior study in Heidelberg, Zurich and Lausanne. He performed postgraduate work at Munich, Wurtzburg, the Universities of Lausanne and Heidelberg, and at a sanatorium at Velmont, Territet. In 1910 to 1911, Doctor Zueblin was assistant to Professor Max Finehorn of New York and pathologist at the Tuberculosis League Hospital, Pittsburgh, Pennsylvania, where he served as attending physician to the Allegheny Hospital.

Doctor W. Houston Toulson (Pete), a graduate of the Class of 1913 at Maryland, provided the writer the following information about Doctor Zueblin, who had been his professor during the junior and senior years, 1912 and 1913. Doctor Toulson was certain that Professor John Hemmeter and Dr. Charles Mitchell, Professor of Pediatrics and Clinical Medicine, were instrumental in the recruitment of Doctor Zueblin. Doctor Toulson recalled that Dr. Ernst Zueblin was a well-informed, earnest and bright physician, who maintained an office at the medical school. His strong accent and expression appeared to detract from his effectiveness as a teacher. The 1913 edition of *Terrae Mariae* praised him for his pleasing personality, a stimulating course of lectures which he delivered during



Photograph of Dr. Ernst Zueblin

the span of a school year, and also for his valuable suggestions to students. According to Doctor Toulson, Doctor Zueblin was not fully accepted within the inner circle of faculty and professional members which was presumably responsible for his short tenure. In the 1917, 1918, 1919 catalogs of the University of Cincinnati College of Medicine, Doctor Zueblin was designated as Associate Professor of Medicine and Director of the Tuberculosis Service, Cincinnati General Hospital. In 1929, Doctor Zueblin was located in Zurich and carried the title of Emeritus Professor of Internal Medicine, University of Cincinnati.

This period, early in the twentieth century, was a critical time for the medical school. Again, Doctor Toulson provided first-hand information regarding the general character and teaching practices of the school. There were no faculty salaries and the income for professors was derived either from the purchase of tickets by students at the beginning of each academic year, or from fees for their consultative practices. Each of the professors, who served as faculty members, engaged in active medical practice and held high positions in

the lay and professional communities. Research activities at the medical school were insignificant.

In 1910 and 1911, scathing reports on medical educational practices in America and elsewhere were published by Dr. Abraham Flexner. Doctor Flexner was an accomplished educator who, under auspices of the Carnegie Foundation, had surveyed and studied medical educational practices in the United States, Canada, and later in Europe. He was very critical of the lack of proper instruction and relevant research at the proprietary medical schools, including those in Baltimore, and strongly recommended that medical teaching and research, particularly in the basic sciences, be better organized and presented by salaried professionals.

The medical school owes a considerable debt to Dr. Randolph Winslow, who had served with distinction as Professor of Surgery for many years. Doctor Winslow was always active in his participation in national meetings and societies which included the American Medical Association and the Association of

American Medical Colleges. On Doctor Winslow's wise advice and warning, school authorities accepted his recommendation and initiated the payment of salaries to the basic science professors. In his comments to the writer, Doctor Toulson commented objectively of the school's practice for many years to appoint physicians to their top professorships frequently from "an inner circle" rather than on a decision based upon competence as a teacher and/or practitioner. In scanning the history of the school, this was certainly not always the case.

In 1913, the Baltimore Medical College (Maryland General Hospital) merged with the University of Maryland School of Medicine. This was followed by the merger of the University with the College of Physicians and Surgeons (Mercy Hospital) in 1915. These mergers strengthened considerably the cadre of competent teachers and practitioners and greatly improved the overall program. Doctor Gordon Wilson, a favorite of the academic faculty, was appointed to the Chair of Medicine in 1913.

GORDON WILSON 1913-1922

Seventh Chairman of Medicine Medical Teacher and Devoted Clinician

This biography is reprinted from the May 1978 Bulletin

On Sunday, May 13, 1962, it was the writer's privilege to talk with Mrs. Gordon Wilson, who graciously provided much valuable personal information about her distinguished husband. His friends, Dr. Walter Baetjer and Dr. W. Houston Toulson, kindly provided important personal anecdotes. On May 25, 1962, a Memorial Service for Doctor Wilson was held in Gordon Wilson Hall when a life-sized, framed photograph of him was presented to the medical school and hospital. Mrs. Wilson and her daughter, Mrs. Herbert B. Wilcox, Jr., attended the service on which occasion the important following events of his life were presented.

A memorial tribute to Doctor Wilson was prepared by Dr. G. Carroll Lockard and Dr. Arthur M. Shipley which appeared in the *Bulletin* of the School of Medicine in October, 1932. Another short biography was published in the *Proceedings of the American Clinical and Climatological Association* written by Dr. David R. Lyman, a fellow student of Doctor Wilson at the University of Virginia. Doctor Lyman died in 1942, about ten years after Doctor Wilson. Doctor Lyman was also an expert in the field of tuberculosis, having served as head of a hospital for tubercular patients in Wallingford, Connecticut.

The Wilsons had two daughters, Mrs. John O. Needles and Mrs. Herbert B. Wilcox, Jr. One of Dr. and Mrs. Gordon Wilson's nieces married the son of Dr. Alfred Blalock. She is Mrs. Allen Gordon Blalock, who is now aged 25 and has three sons.

Mrs. Wilson related that "Doctor Wilson was an only child of divorced parents who spent his early life traveling about Europe with his mother who placed him in school in Switzerland. Apparently, he learned some French but soon forgot it."

Dr. Gordon Wilson contracted tuberculosis either as a medical student or as an intern, although Mrs. Wilson is not absolutely certain. After contracting tuberculosis, he was hospitalized at the Trudeau Sanatorium, Saranac Lake in northern New York. In later years, Doctor Wilson had recurrence of tuberculosis when he developed pleurisy at Camp Meade, Maryland, while serving during World War



Gordon Wilson, M.D.

I. Because of his ill health and physical disability, his medical friends interceded with authorities which led to his honorable discharge from the Army. Following discharge, he partially regained his health.

He died quietly at the age of 55 on Wednesday, October 26, 1932, after having completed his office appointments for the day. On feeling ill, he consulted with Doctor Thayer and later his close friend and physician, Dr. Walter Baetjer, who accompanied him in the ambulance. Death resulted from a cerebral hemorrhage on the same day in the Union Memorial Hospital.

Dr. Gordon Wilson was Head of Medicine at the University of Maryland for the period 1913 until 1922. While at Maryland, according to Doctor Toulson, Doctor Wilson showed little interest in administrative affairs. He was reserved and never "back-slapping" in manner. During this period, he main-

tained an office for the practice of medicine at 811 Cathedral Street which was known as the old Riggs House in the locale of Madison and Read Streets. Although his large practice embraced general medicine, his work was primarily in the field of tuberculosis.

Mrs. Wilson was uncertain whether Doctor Wilson received a salary. Usually his mornings were spent in the conduct of medical rounds and lectures and his afternoons devoted to the private practice of medicine. It is of interest that Doctor Wilson's attitude toward payment of patients' bills was casual. He did not seem to worry about such mundane things. He had an office in association with Dr. William "Billy" Fisher, a prominent Baltimore surgeon.

He always had a special interest in tuberculosis, having experienced its handicaps himself in his student days. In 1907, he was appointed Visiting Chief of the Baltimore Municipal Hospital for Tuberculosis. One can give no better testimonial to Gordon Wilson's qualities as a clinician and a teacher, than to simply record the fact that under his influence the students came to regard this as one of the most interesting of their services, and the patients chose to go there rather than to one of the sanatoria away from Baltimore. Only a rare physician and a rare spirit could, in those days, establish a waiting list for the tuberculosis ward of a poorhouse!

According to Dr. Walter Baetjer, it was Doctor Wilson who offered Dr. Maurice C. Pincoffs the Chair of Medicine which was accepted in 1922. Doctor Baetjer was initially offered the Chair which he declined; he suggested Doctor Pincoffs as a suitable man for the position.

It was Doctor Wilson's health more than anything else which forced his retirement from academic medicine. There was no ill feeling at the time of his retirement. During his tour as Head of Medicine at the University of Maryland, he continued to teach at the Hopkins Hospital. The Wilsons were friends of Dr. William Osler and enjoyed his friendship immensely. He was also a great friend of Dr. Henry M. Thomas, Jr., Doctor Thayer, Dr. Palmer Fitcher and others. Doctor Wilson liked teaching immensely and although interested in research, he did not perform laboratory work.

Doctor Wilson was a member of the Maryland Tuberculosis Association and consulted with authorities in the field of tuberculosis at Sabillasville, Maryland. Dr. Victor Cullen, Director of the Maryland Sanatorium, and Doctor Wilson were close friends who collaborated frequently in matters pertaining to patients with this common lung disease. Doctor Wilson was consulting physician to the tuberculosis hospital of the Baltimore City Hospitals. He was a personal friend of Dr. Edward Trudeau, Founder of the Trudeau Sanatorium, and Dr. Lawarson Brown, the renowned chest roentgenologist. Dr. Arthur M. Shipley, Professor of Surgery, and Doctor

Wilson admired each other immensely. After his death, it was Doctor Shipley who was responsible for having Gordon Wilson Hall named for him.

Doctor Wilson was a slight man with a keen sense of humor and a deep baritone voice. One of his wonderful attributes was his personal charm. Patients seemed to have great confidence in him. Always, he was unruffled and calm. He was very fond of his work in medicine. He was an Episcopalian "who lived a Christian life but was not intensely religious." It was his belief, according to Mrs. Wilson, that much of the best meditation took place at home and in daily life rather than in church.

It was interesting to learn of Mrs. Wilson's interpretation of how he obtained his appointment as an intern at the Johns Hopkins Hospital. While a medical student in Virginia, he developed appendicitis in November, 1896, when visiting in Baltimore. Examination of the medical record at Hopkins revealed that Dr. J.M.T. Finney examined him as a consulting physician for abdominal pain. After 29 hours of watchful waiting, the appendix ruptured and he became seriously ill. A laparotomy was performed. The wound was not closed and kept open with gauze drains. He was examined in consultation by Doctor Osler. Signs of intestinal obstruction developed. After the fifth postoperative day, the course was satisfactory.

Mrs. Wilson expressed her good-natured view that Doctor Finney must have felt so badly about his serious medical condition that he interceded to help him gain an internship in medicine on Doctor Osler's service. Actually, Gordon Wilson was a good student who studied hard; he was quick and had a very retentive mind.

On June 18, 1903, an operation was performed by Doctor Finney to repair a ventral abdominal hernia. Ether anesthesia was used and the postoperative course was complicated by bronchitis. Codeine and heroin were prescribed. Doctor Wilson's other significant illness, other than appendicitis, was his development of tuberculosis and pleurisy.

Other graduates of the University of Virginia who became prominent Hopkins physicians were Dr. Hugh Young and Dr. William C. Dabney, later known for the description of "the Devil's" or "Dabney's grip." Mrs. Wilson related that it was the practice for interns and residents in medicine in those days to deliver women of their babies throughout the City of Baltimore. One of the local expressions was how these "young practitioners practiced on innocent young women." Early in the twentieth century, there was very little medical practice in medical school hospitals. Most of the curriculum was concerned with the reading of books and didactic classroom lectures. Occasionally, at the University of Virginia, the professors took the students into their homes for demonstrations with their private patients. This was also true in Baltimore.

The Wilson family usually spent their summers in North Hatley, near Quebec. Mrs. Wilson indicated that this was a "great Baltimore place." Doctor Wilson fished frequently but "never caught a fish" which was one of the family jokes.

Doctor Wilson was a hard smoker of "Richmond Straightcuts" and "distributed ashes all over the house." "He was casual in manner, not very tidy, and like most men, did not pick up after himself. He contributed very little of anything toward tidying up at home and never pattered about the kitchen or worked in the yard. Usually, when Doctor Wilson returned home, he would call Royal, the butler, who would frequently provide him with a julep at the end of a hard day. Doctor Wilson enjoyed bridge playing with Dr. "Billy" Fisher and other friends, usually at the Baltimore Club." Doctor Toulson related that he usually played at 3:00 in the afternoon and tolerated "Toulson's poor playing." Mrs. Wilson confided that he loved good food and admired Maryland diamond back terrapin stew among other things.

Dr. and Mrs. Wilson were married in 1909. She was Elizabeth Preston Elliott, a member of a promi-

nent Baltimore family. They met in Baltimore and were married in St. Paul's Church. The picture kindly given by Mrs. Wilson was taken when he was about 50 years of age. Doctor Wilson was buried in the cemetery of St. Thomas' Church.

Two statements of Doctor Wilson's made in 1924 on the occasion of his Presidential Address to the American Clinical and Climatological Association are just as fitting today as when given.

"The object of a medical school is to educate properly qualified men and women to become practitioners of medicine, and in so doing to give them the foundation whereby with further study they may become specialists, teachers or research workers.

Having defined what is the object of a medical school it might be advisable to realize that a medical school is a professional school and not a graduate school, terms not synonymous in spite of the authority of many inaccurate thinkers, and with this realization the proper position of research at the expense of knowledge of fundamentals is at once evident, both for the student and the teacher."

CURRICULUM IN MEDICINE 1923–1924

Doctor Pincoffs Assumed the Chair of Medicine in 1922 Succeeding Dr. Gordon Wilson

Faculty in Medicine: M. C. Pincoffs, G. Wilson, C. B. Gamble, Jr., J. Friedenwald (Professor of Gastroenterology), T. C. Gilchrist (Dermatology), J. E. Gichner, C. W. McElfresh, I. J. Spear (Neurology), G. C. Lockard, H. G. Beck, G. F. Leitz (Gastroenterology), E. B. Freeman (Gastroenterology), M. Rosenthal (Dermatology), G. M. Settle (Neurology), C. C. W. Judd, H. D. McCarty, W. H. Smith, P. W. Clough, S. R. Miller, S. L. Johnson, J. G. Huck, R. C. Metzel, H. M. Robinson, T. Morrison, W. I. Messick, L. A. M. Krause, H. M. Stein, G. McLean, F. L. Jennings, E. E. Mayer, D. C. Streett, C. C. Habilston, M. Feldman (Gastroenterology), L. Freedom, Z. Morgan (Gastroenterology), W. Fort, H. Seidel, I. S. Zinberg (Gastroenterology), W. Michel, H. R. Peters, H. M. Bubert, F. C. Bagagliacca, L. L. Gordy

During the year 1922–23, there were 54 matriculates in the fourth year class; 87 third year; 85 second year; and 108 first year. In 1913, the Baltimore Medical College and in 1915, the College of Physicians and Surgeons merged with the University of Maryland School of Medicine; these mergers enhanced the educational and hospital facilities and laboratories. Students received clinic and in-hospital instruction at the University and Mercy Hospitals and Dispensaries. Training in tuberculosis was taken, under faculty supervision, at the Bay View Hospital.

During the *second* year, students were introduced to clinical medicine for one hour weekly during the first semester and two hours weekly during the second semester. Students were assigned in groups of four to six under an instructor.

Training in medicine during the *third* year was conducted in the various outpatient dispensaries. The class was divided into small groups and each section received instruction for four hours each week largely by demonstrations. Weekly sessions were given on recognition and symptomatology and gross pathology of tuberculosis. For two hours each week, whole class sessions on general therapeutics and materia medica were given by Doctor Lockard.

Clinical pathology (laboratory medicine) was an important course given during the third year. Students

were thoroughly drilled in the technique of laboratory work in order to prepare them for the routine examinations which were expected to be performed on the medical wards and in the dispensary during the fourth year. The practical work was supplemented by a series of didactic lectures. The course was entirely practical involving microscopic and clinical study of blood, exudates, transudates, gastric juice, spinal fluid, feces and urine. Special attention was directed to the clinical significance of the findings. Clinical parasitology was strongly emphasized. John G. Huck directed this course.

Many lectures were given to the junior class in Davidge Hall and performance for the entire year was based on written examinations.

The *fourth* year was utilized for practical application of therapeutic principles in bedside teaching. Each student served 26 hours for 10 weeks. The various affiliated hospitals and their attending staff members were responsible for this course of instruction. Clinical Pathologic Conferences were held weekly and were very instructive and popular.

Gastroenterology was the only organized subspecialty discipline of medicine. Dr. Julius Friedenwald was the Chairman; clinical recitations and demonstrations were given to the class for one hour weekly along with dispensary instruction.



Maurice C. Pincoffs MD

February 1987

MMJ

Maryland Medical Journal

MAURICE C. PINCOFFS 1922-1954

Clinician and Teacher, Medical Statesman, and Distinguished Soldier Eighth Chairman of Medicine

The medical profession will remember Maurice C. Pincoffs as one of Maryland's foremost medical teachers, clinicians, counselors, and medical administrators. His mind and his labors were shaped by and helped shape an era of almost ceaseless medical progress.

Maryland enjoys a rich heritage in medicine. Maurice C. Pincoffs stands in the line of succession with men like Samuel C. Chew, William Osler, William Welch, Charles Austrian, Arthur Shipley, Thomas Boggs, Walter Baetjer, Louis Krause, and others. His colleagues, his students, and his patients looked to him for leadership, and he never disappointed them.

Maurice C. Pincoffs, known to his intimates as "Pink," was born in Chicago, Illinois, on August 6, 1886. His father, for whom he was named, was a native of Rotterdam, Holland, who had come to the United States with his parents in the late 1870s. The family settled in Chicago and established an export business. Mr. Pincoffs married Louise Henrotin, the daughter of a Chicago physician, and they had several children. Maurice was the second child and first boy.

For business reasons the Pincoffs lived in Belgium for several years where young Maurice attended school in Antwerp for three years and learned French, which served him well when he was stationed in France during World War I.

Pincoffs entered the University of Chicago in 1904. During one of his years at the university, he lived with his uncle, Dr. Fernand Henrotin. He became active in fraternity affairs and was able to maneuver some of his education during winter months at an affiliated institution in Florida. In 1906, when Dr. Henrotin died, he left his favorite nephew a small legacy. This prompted Pincoffs, against his father's wishes, to temporarily arrest his formal education. In 1907, Pincoffs and a college friend, Horace B. (Tod) Horton, traveled throughout the west.

Resuming his education, Pincoffs attended Rush Medical College in Chicago from 1906 to 1909. The first year at Rush was marked by a near-catastrophic event not uncommon for medical students. Pincoffs's proneness to diversion had not fully dissipated when the Delta Kappa Epsilon fraternity chose him as its representative to its national convention in New York City. The meeting conflicted with the mid-term examination, absence from which was tantamount to failing the course. This usually meant release from medical school. It was suggested to Pincoffs that another profession might better suit his tastes. The predicament stimu-

lated Pincoffs to study day and night to obtain a favorable report at the end of the semester.

In 1909, Pincoffs completed requirements for the baccalaureate degree in science and graduated from the University of Chicago. He enrolled as a graduate student at the University of Chicago for a year and worked in the Department of Anatomy, headed by Professor R. R. Bensley. He seriously considered a career in medical science but, in the end, decided to enter Johns Hopkins Medical School. Professor Bensley had a high opinion of his graduate student and wrote a very enthusiastic letter to Franklin P. Mall MD, Professor of Anatomy at Hopkins, recommending that Pincoffs be admitted to Johns Hopkins Medical School with advanced standing because of his strong background. An endorsement to Dr. William H. Welch stressed that Pincoffs showed unique promise of an outstanding career in medicine. He was admitted to Hopkins as a third-year student and began his training in October 1910.

Medical School

From the beginning, Pincoffs was regarded as a promising student who quickly adapted to his new medical setting. In his senior year at Hopkins, another close call occurred in Pincoffs's academic career. After Christmas vacation, he went north to New York City and Bellevue Hospital for a month's student externship in surgery. During this unauthorized absence, he missed an important examination in surgery held at Hopkins. This prompted a Hopkins professor to suggest to Pincoffs that he think seriously about another professional career. An interview with Dr. William S. Halsted, Chairman of Surgery, helped clear the situation. This unscheduled detour ended happily in 1912 with Pincoffs's graduation from Hopkins with a degree of Doctor of Medicine.

His request for an internship at the Johns Hopkins Hospital was denied because of certain conflicting details regarding his grades as a student at Rush Medical College. Fittingly, he obtained an internship at the Presbyterian Hospital in Chicago and trained on the service of Dr. James B. Herrick, a distinguished clinician and cardiologist, from 1912 to 1913.



Figure 1. Maurice C. Pincoffs as a senior medical student at the Johns Hopkins Medical School.

Dr. Pincoffs returned to Baltimore for training as Assistant Resident Physician at the City Hospitals, then known as Bay View. The Bay View Hospital had undergone considerable transformation. In addition to the main hospital or infirmary (which housed chronic patients) and buildings for the care of tuberculosis patients and the mentally ill, a new facility permitted care of medical and surgical cases with acute illnesses.

For two years, Dr. Pincoffs was Medical Resident on the newly organized medical service under direction of Dr. Thomas H. Boggs, a senior member of the Hopkins medical faculty. Dr. Walter Baetjer was the Resident Physician. During this time, the surgical service was organized under the aegis of Dr. Arthur M. Shipley of the University of Maryland faculty. Drs. Boggs and Shipley were able and enthusiastic clinicians whose

work, beginning in 1910 at the Baltimore City Hospitals, was instrumental in improving the standards of medical care and teaching. Dr. Pincoffs served as Assistant Resident Physician in 1913 and Resident Physician in 1914. Drs. Pincoffs and Shipley, two dedicated clinician-teachers, began an association that continued until mid-century.

A major attraction at Bay View was the excellent academic program in pathology under the distinguished leadership and stimulus of Dr. William Welch. He and Dr. Milton C. Winternitz devoted much time to post-mortem examination and to instruction of resident physicians. Surgeons and physicians in residence shouldered most of the hospital work. "Pete" Toulson and Maurice Pincoffs were residents on the surgical and medical services, respectively, from 1914 to 1915.

Much to the advantage of medicine in Baltimore, the medical and surgical services at Bay View were shared congenially all those years by Hopkins and Maryland.

Practice

In 1915, Dr. Pincoffs left Bay View to join Dr. Lewellys F. Barker as an associate in private medical practice, an association that brought him into intimate contact with Drs. Walter A. Baetjer, Thomas Sprunt, and Henry M. Thomas, also clinical associates in that office. Dr. Pincoffs did not abandon his scientific medicine. When he entered private medical practice, he devoted mornings to work on endocrine problems under Drs. John J. Abel and David Macht of the Department of Pharmacology of the Hopkins School of Medicine. There Dr. Pincoffs attempted to isolate the canine hormone, secretin, from the intestinal tract. His interest in epinephrine was kindled and would surface later.

After a training course for medical officers at Plattsburg in the summer of 1916, Dr. Pincoffs became a First Lieutenant in the Medical Corps of the United States Army. His medical practice and clinical interests in research came to an abrupt halt when he volunteered for service and was called to active duty in the spring of 1917. He was sent to France with a large group of American medical officers assigned to the British Expeditionary Force at the request of the British government. Soon after reaching France, Dr. Pincoffs joined the British sector of the Allies as a battalion medical officer. He gained valuable experience in evacuation of the wounded and displayed indomitable courage under battle conditions.

Later, Dr. Pincoffs was transferred to Second Division of the American Expeditionary Forces. Lt. Col. Richard Derby, Surgeon of the Second Division, highly praised Lt. Pincoffs for his courage and ability as a battalion surgeon.

Lieutenant Maurice Pincoffs was the ideal of all that a medical officer should be. Absolutely fearless, full of resources and a born leader, he was ever accomplishing what appeared impossible and in so doing maintained at a high pitch the morale of those about him. The system of location of battalion aid stations and use of the litter bearer section of the ambulance companies, which was used in the open fighting of the summer, was developed by Lieutenant Pincoffs, and to him is due much of the credit for the rapid evacuation of the battlefield which characterized the later engagements of the division.

The French government awarded him the Croix De Guerre with palm and two stars; the United States awarded him the Distinguished Service Cross; two very high honors for valor in action. Dr. Pincoffs left the Army with the rank of Captain.

In 1919, Dr. Pincoffs returned to Baltimore and resumed his association with Dr. Barker. He joined the Hopkins staff as a part-time Instructor in Clinical Medicine with responsibilities in medical practice and teaching in the Johns Hopkins Dispensary.

That same year, he married Katherine B. Randall, eldest daughter of Mr. and Mrs. Blanchard Randall of Baltimore. Dr. Pincoffs and Katherine had met in Canada during the summer of 1915. In 1920, Dr. and Mrs. Pincoffs moved to Markland, their large, lovely home on twelve acres on a high hill just off Frederick Road, not far from the Randall estate. In this rural setting, their children, Maurice Charles, Jr., Susan Randall, and Peter Henrotin, were raised.

Dr. Pincoffs's career seemed aimed toward private medical practice and part-time teaching on the Hopkins medical staff until fate intervened. Conversations with Drs. Baetjer, Shipley, Toulson, and McLean clarified the following series of events. Gordon Wilson MD, who held the Chair of Medicine at Maryland from 1913 to 1922, had been ill after contracting pulmonary tuberculosis.

Arthur M. Shipley MD was then the dominant medical force at the University of Maryland School of Medicine and Hospital. Dr. Shipley had developed a strong professional and personal relationship with Dr. Wilson. In those days, faculty meetings were few, and decisions often were made in "good faith" by those in authority. Having heard of the splendid talents of Dr. Walter Baetjer, Dr. Shipley instructed Gordon Wilson to seek Dr. Barker's approval to approach his associate as a candidate for the Chair of Medicine. Dr. Baetjer appreciated the offer but graciously declined because he preferred medical practice to medical teaching and administrative responsibilities. Dr. Baetjer suggested Dr. Pincoffs as a good candidate. Dr. Wilson discussed the matter further with Dr. Shipley, who instructed him to return to the Barker office and to offer the post to Dr. Pincoffs.

University Administrator

After Pincoffs's appointment, a meeting was held at the home of W. F. Lockwood MD, former Dean of the College of Physicians and Surgeons. Those in attendance with Lockwood were Drs. Harvey Beck, Dennis McCleary, Charles Judd, and George McLean, who recorded the minutes. Dr. Pincoffs, then age 35, attended this special meeting and was asked to present his concepts of the medical program and how the College of Physicians (Mercy Hospital) staff would relate to the department's program. Among other things, Dr. Pincoffs suggested the adoption of a new form to record patients' medical histories and doctors' physical findings. The form was approved and ultimately adopted but later was discarded in favor of the standard clinical format.

In 1921, Dr. Pincoffs resigned his post at Hopkins



Figure 2. Lt. Pincoffs MC (right) in France. He was then serving with distinction as a Battalion Medical Officer with the Second Division.



Figure 3. The Pincoffs family at Markland. Dr. and Mrs. Pincoffs, Maurice C. Jr. (standing), Susan, and Peter.

and his practice with Dr. Barker to become Professor of Medicine at the University of Maryland School of Medicine and Hospital and to begin his unstinting commitment to the task of fulfilling new, arduous duties as chairman of a large clinical department. Although the budget was meager and the resources and facilities limited, Dr. Pincoffs had a competent cadre of practitioners and clinical teachers available to him.



Figure 4. Dr. Pincoffs about the time he assumed the Chair of Medicine at the University of Maryland School of Medicine in 1922.

The medical school was undergoing considerable change that culminated in a crisis affecting the future of the school and hospital. In 1920, Dr. Wilson had convinced local and state authorities that the school had a promising future and was sorely needed by the city and state. The University of Maryland had absorbed the Baltimore Medical College (Maryland General Hospital) in 1913 and the College of Physicians and Surgeons (Mercy Hospital) in 1915. The amalgamation brought together older, more established faculty members who had held important and prestigious posts in their respective institutions. The new group represented three medical schools molded into one.

When Dr. Pincoffs came on this scene as Chairman of the Department of Medicine, there was a competent Department of Surgery under the direction of Arthur M. Shipley. Despite some difficulties, mostly relating to claims of territorial responsibility and resistance to change in the Department, Dr. Pincoffs's chairmanship proceeded well. He developed a strong clinical teaching department that became the backbone of the school and hospital. At Mercy Hospital, he contributed many hours of teaching and service to the staff and patients, providing a solidifying influence between the clinical and teaching strength at the College of Physicians and Surgeons and the newly organized University of Maryland Department of Medicine.

During Dr. Pincoffs's tenure as Chairman (1922 to 1954), the country was experiencing extensive scientific

discoveries and developments. Pincoffs's excellent leadership qualities and skills as a clinician and teacher provided the foundation necessary for organizing and developing a Department of Medicine. By virtue of this influence, other departments at the university adopted Pincoffs's standards and were thereby strengthened. The school was later referred to as "the College of P and S," not meaning "Physicians and Surgeons," but "Pincoffs and Shipley."

An inspiring teacher, Dr. Pincoffs imparted a sense of responsibility and attention to thoroughness to physicians and students privileged to study under him. To Dr. Pincoffs, a medical diagnosis was never a hasty judgment but a painstaking analysis designed for the clinical problem at hand. These natural assets were strengthened by his unusual ability to retain information gleaned from the medical literature. Even when eating lunch, he often read a medical article or a classic writing.

Dr. Pincoffs became interested in oxygen therapy and its relationship to treatment of critical disorders, such as lobar pneumonia and conditions in which the patient might profit from a highly concentrated atmosphere of oxygen. In the 1930s, he arranged to have three small chambers (resembling a small battleship) constructed on the 2-C wing of the University Hospital. Each chamber had a metal double door, was airtight, and was large enough to accommodate a hospital bed, a nurse, and one or two others. The three-bed unit was supplied by a delicate system of tubes from oxygen tanks at one end. The patient reclined comfortably in an atmosphere of about 100 percent oxygen provided by the tubes. Patients with severe lobar pneumonia, myocardial infarction, and severe trauma with brain injury showed improvement when treated with this forerunner of the hyperbaric chamber. Unfortunately, the apparatus was difficult to operate, and the oxygen costs per patient amounted to \$25 a day, a huge sum then. When after a few years the unit ceased to function, the small chambers were used for offices and storage until the area was remodeled in 1955.

Teacher

Dr. Pincoffs taught and practiced the principles of comprehensive medicine, emphasizing the ecology of disease. His lectures in Davidge Hall and later in Gordon Wilson Hall in the "new" University Hospital were concise, objective, comprehensive, and delivered in a deep baritone voice in beautifully chosen English.

Having uncanny ability to reach the heart of a difficult clinical problem after the medical history and physical findings of a patient had been appropriately presented, Dr. Pincoffs often probed deeper into the pertinent history and seldom failed to detect a key physical finding of the condition. He placed the patient's problem foremost with unselfish devotion. He was an inspiration to his patients, and they had implicit confidence in his judgment. He expressed sincere interest and concern for his patients' feelings as well as for their pain.

It is not clear why Dr. Pincoffs failed to stimulate

and incorporate research methods into the Department of Medicine during his tenure, particularly in view of his intimate association with leaders of many prestigious medical centers. His lack of attention to research was contrary to Dr. Pincoffs's persuasion and experience. On my recruitment, as the first clinical geographic full-time faculty member in 1948, I asked what he expected of me. Dr. Pincoffs replied, "Ted, we need to get going in development of a postgraduate residency training program and in research." It seemed clear that the curriculum needed revision. There was a redundancy of didactic lectures with little practical in-hospital medical experience. Dr. Pincoffs adhered to the creed of high quality patient care within an environment of clinical teaching. Generally, he discouraged house officers and faculty from seeking training and research experience elsewhere.

Because of administrative duties, Dr. Pincoffs sacrificed any opportunity for sustained work in the laboratory except for sporadic brief chances. Nevertheless, the prestige of the school was enhanced through his teaching, clinical studies, and medical write-ups of bedside observations. He wrote many significant medical publications dealing with the natural history of diseases, physiological phenomena related to the adrenal gland and hypertension (case report), functional and structural abnormalities of the heart, disorders of the nervous system, and management of acute infectious diseases. Dr. Pincoffs presented several important papers to the Association of American Physicians, a prestigious society of which he was a member. In his first formal paper (presented to the Association in 1926) Dr. Pincoffs described the classic features of abscess in the spinal epidural space. In this study and others to follow, he emphasized the need for early diagnosis and prompt surgical intervention. He always maintained an interest in clinical medicine. On the floor of the Association, Dr. Pincoffs entered discussions and made concise remarks based on his painstaking case analyses of patients with cardiovascular syphilis (1927), the association of hydronephrosis and unilateral hypertension (1938), on malaria (1948), and typhoid fever (1949).

Dr. Pincoffs's paper on the relationship between paroxysmal hypertension and pheochromocytoma, presented to the Association in 1929, was the first reported since Mayo's original case in 1927. Since his early interest in adrenalin while at Dr. Abel's laboratory, Dr. Pincoffs had studied a patient who exhibited abnormal excess clinical effects of this hormone. He correctly diagnosed a 25-year-old woman as having clinical manifestations of a suprarenal tumor shown to be a pheochromocytoma. The tumor was removed successfully by Dr. Arthur Shipley. The patient made a full recovery, and her hypertension was relieved. Physiologic studies of the tumor tissue performed by Dr. W. H. Schultz revealed the characteristic smooth muscle reaction of epinephrine. In 1937, with Dr. Edmund Bradley, Dr. Pincoffs reported for the first time the association of arterial hypertension and embryonal adenomyosarcoma of the kidney (Wilm's tumor) in three small children.

In 1948, a small team of medical scientists, of which I was a member, went to Malaya to test a new and promising antibiotic known as Chloromycetin. Know-



Figure 5. Dr. Pincoffs discussing a case during a clinical pathological conference at the Massachusetts General Hospital, Boston.

ing of its great potential and specific use in typhus fever, I was able to inform Dr. Pincoffs of its equal probable efficacy in patients with Rocky Mountain spotted fever. A sufficient supply was provided in Baltimore for testing. Clinical evaluation in Maryland rapidly revealed the remarkable effect of Chloromycetin (chloramphenicol) in this serious and violent illness. This was the first specifically known cure for Rocky Mountain spotted fever. This work was published in 1948.

When it became clear that chloramphenicol might be an effective antimicrobial agent, it was necessary for me to gain Dr. Pincoffs approval to join the small team in Malaya and to ask the university to sponsor a \$50,000 contract by the Department of Defense. This grant inaugurated the department's program in clinical and applied research. When he learned of the antibiotic's potential and of the contemplated study in Kuala Lumpur, Dr. Pincoffs remarked: "I wish I were a younger man."

Perhaps Dr. Pincoffs's most informative teaching sessions for students, house officers, and faculty were his discussions at clinical pathological conferences. Dr. Hugh Spencer, Chairman of Pathology, was delighted in presenting a challenge to Dr. Pincoffs. Always competitive, Dr. Pincoffs was equal to the challenge. Whether or not his conclusion was flawless, we observed firsthand how Pincoffs reasoned through difficult diagnostic problems. His final diagnosis usually was correct.

Professional Affiliations

As head of the Department of Medicine, Dr. Pincoffs faced many demands. His working hours, which extended seven days a week, were further occupied with a consulting practice and numerous community and national matters of great importance. He took an active part in the affairs of the Medical and Chirurgical Faculty of Maryland by serving as a member of its Council from 1935 to 1944, 1947 to 1949, and as its president in 1953.

Dr. Pincoffs played a major role in establishing a committee on medical care for the Maryland State Planning Commission. He chaired the first meeting, which was held on January 23, 1940. Under his direction, the committee on medical care developed Maryland's program for providing medical care to the indigent by establishing free clinics strategically located in Baltimore and throughout Maryland. This was a pioneer project of its kind in the United States. (One such clinic, the Baltimore Infirmary, was opened in 1923.) Maryland was among the first states to establish such programs for the needy. Dr. Pincoffs earned the tribute of "medical statesman" because of such public service.

Governor Herbert R. O'Connor appointed Dr. Pincoffs as a member of the State Board of Health in 1940. He served on that body continuously until 1959 and presided as its chairman. His experience gave him the insight to understand the needs of all Maryland citizens from the standpoint of prevention and treatment of illness. He had developed firsthand knowledge of available and needed resources to deal with these objectives.

Dr. Pincoffs contributions to his profession were not limited to Maryland nor to its School of Medicine and Hospital, which he served most of his active professional life. He was a respected member of the premiere medical societies in the field of internal medicine. The College of Physicians elevated Dr. Pincoffs to Mastership in 1947, a high accolade reserved for relatively few of its members. He was elected president of the American Clinical and Climatological Association in 1949, and the American College of Physicians in 1951.

At a critical point following World War II, the Board of Regents of the University of Maryland chose Dr. Pincoffs to formulate plans for the school's future and to assist in attracting key personnel to the Baltimore facility. Of particular significance was the recruitment of Jacob Finesinger MD as the first Director of the New Institute of Psychiatry. Contributions to our nation's health continued through his counseling as a senior consultant to the Armed Forces and the Public Health Service.

Editor

One of Dr. Pincoffs's major contributions was his editorship of the *Annals of Internal Medicine* from 1933 to 1960. Whenever Dr. Pincoffs left the hospital, both hands were occupied, one with his medical bag, the other with a large dispatch case filled with manuscripts. He was assisted by able and humble Dr. Paul W. Clough, his associate editor, along with several assistant editors appointed by him. Under Dr. Pincoffs

the *Annals* became one of the leading medical periodicals in the world, from an annual distribution of about 3,000 copies to a monthly circulation of about 24,000. Dr. Clough said of him,

Dr. Pincoffs' work as editor of the *Annals* constituted one of his major contributions both to the College and to the profession generally. Selection of manuscripts always received his special attention. He desired first . . . some significant new contribution to a subject of inherent importance but he was especially critical as to the clarity with which the study had been planned, the apparent reliability of the experimental or clinical observations and their adequacy as proof of the conclusions reached. Dr. Pincoffs was a scholar well versed in the English language and adept at using it properly and effectively. Brevity, simplicity, clarity, precision in the use of words, coherence of thought, adherence to the customs and forms of good literary English characterized his writing, and he endeavored as far as possible to make the manuscripts which he edited conform to his high standards. He abhorred notoriously gross errors of spelling, grammar and syntax, but he tried to eliminate many other abuses of good English.

Character

Dr. Pincoffs commanded full respect: in any group, he was recognized as the tall, handsome, militarily erect man of stately bearing and gentlemanly manner. To those colleagues not close to him, he was regarded as reserved, often abrupt, and at times, aloof. Light talk did not interest him, and he was not a chummy type who mixed freely.

He had an ability to express himself precisely and with remarkable clarity. His extraordinary experience coupled with a precise memory allowed him to recount many interesting anecdotes. Intimate friends who might share a "spot of scotch" with Dr. Pincoffs recall his talent for vivid expression and his warm, friendly humor. With all his rich endowments, he infrequently used the personal pronoun and was unassuming.

When problems demanding careful reflection arose, as they frequently did, he approached them deliberately, meticulously, and calmly. He brought sound judgment to professional discussions since he invariably would reach the heart of a problem and carry it to its most logical conclusion. Once his mind was made up, he was solid as the Rock of Gibraltar and it was rare, indeed, to shake him from his position. Those who failed to budge him from his point of view looked upon him in the image of Zeus; others simply regarded his integrity as "monumental."

He was impatient with minor problems, administrative routine, or inconsequential details, such as arranging attending or student schedules, preparing examinations, or correcting examination papers. Usually he inscribed examination questions for a whole class on the blackboard in Davidge Hall, composing as he proceeded.

Referring physicians anticipated delay in receiving a consultative medical report from Dr. Pincoffs but usually received an informative telephone call at 8 a.m. the day after the consultation. When I was emerging from medical adolescence to adulthood, Dr. Pincoffs graciously invited me to be his guest at the Medical Reunion dinner, an old Baltimore medical club. The pre-dinner lubrication prompted me to relate the following anecdote to Drs. Pincoffs, Shipley, and Charles Austrian. Once I asked my father (a practitioner in West-



Figure 6. Dr. Pincoffs at the tiller on Chesapeake Bay.



Figure 7. Lt. Col. Pincoffs MC at the beginning of World War II.

minister) to name the best internist in Maryland. My father, who had referred many patients to internists and surgeons in Baltimore, responded "Pincoffs and Austrian." "Father, who is the better man?" I asked. My father reflected and said "Austrian." As a young Turk and neophyte under Dr. Pincoffs, I responded "Why do you say Dr. Austrian?" My father replied, "Because I get my reports quicker." Everyone had a good laugh.

During the days of much work and very few house officers, Dr. and Mrs. Pincoffs invited a few people to Markland, their home. After a hard day, the weary guests consumed several pre-dinner martinis on empty stomachs. Oysters on the half shell were a delightful change from the usual hospital fare. As Dr. Pincoffs was beginning to carve the ham, one of the young guests, whose complexion had changed, excused himself. Dr. Pincoffs, the gracious host, followed his guest and shortly returned. He resumed cutting the ham and remarked, "Just like a true Eastern shoreman, all of the martini and none of the oysters!"

Dr. Pincoffs had a zest for outdoor life that provided him needed diversion and opportunity to associate with friends. He frequently went fishing with medical associates and loved to work outside. During summer vacations at Gibson Island, upper New York State, and Maine, Dr. Pincoffs took great pleasure in sailing, and in later years, painting landscapes.

Sailing was undoubtedly his greatest outdoor pleasure and his nautical friends dubbed him "master of the wheel." His serious interest in sailing began while he was a house officer at Bay View. He knew well the waters of the Chesapeake and enjoyed cruises in the company of his colleagues. Dr. Pincoffs was a fierce competitor and loved to cross the line in first place. According to his friends, once he had the tiller in his hands, no one else was likely to have a chance thereafter. Dr. "Pete" Toulson recounted an incident while sailing when Dr. Pincoffs had the tiller. While attempting a short cut at Kedges Strait, the boat went aground and could not be freed. Dr. Pincoffs, upset over the incident, was later seen below, reading a magazine upside down, a confirmation that his reactions to disappointment were sensitive and normal.

World War II

In Europe, thundering clouds of unrest had begun to form, culminating in the attack on Pearl Harbor and the U.S. entry into World War II. Prior to this, house officers, after finishing their training on Dr. Pincoffs's medical service, were sufficiently patriotically motivated to enter the military service. Dr. Pincoffs, a soldier's soldier, then 55 years old, was not about to miss the call. He sensed his country's need, and his patriotic fervor was undiminished. On the government's request, he vigorously organized a general hospital unit. In order to pass muster, he submitted to surgical correction of extensive varicose veins. The Hospital Medical Unit was split into two components; Dr. Pincoffs was Commanding Officer of the 42nd General Hospital, which landed in Australia in 1942. Later, he was detached from the hospital and made Chief of Preventive Medicine for the Southwest Pacific Theater under the Chief Surgeon and General Douglas MacArthur.

Prevention of illness among American forces in the disease-ridden tropical Southwest Pacific received Dr. Pincoffs's skill and attention. Once he broke away from his engrossing administrative work long enough to conduct a scientific field study that demonstrated conclusively that atabrine was a most effective antimalarial agent if taken daily. Characteristically, he was one of

the test volunteers who was exposed to malarious mosquitoes. While at Milne Bay, Dr. Pincoffs was able to sail a Pearl Lugger from island to island for mail and provisions.

When American forces re-entered the ravaged city of Manila in 1945, Dr. Pincoffs, acting under the authority of General MacArthur, organized and directed a health care program and in ten weeks established order from chaos. Malnourished lepers had freely walked the streets of Manila seeking help before the program's inception, but under an organized system the Manila Health Department hospitalized and treated malnourished and diseased citizens of the city. General health and preventive measures were developed. The harassed population gained confidence in its new medical administration. On one occasion, Col. Pincoffs walked quietly into Gen. MacArthur's headquarters and emerged with a faint smile on his face and the promise of trucks as well as medical and supportive supplies necessary to do the job. For his work in the Pacific, Dr. Pincoffs was awarded the Legion of Merit with Oak Leaf Cluster.

During those busy times in Manila, I once commented to Dr. Pincoffs that Huntington Williams would have to carefully protect his post as Commissioner of Health for Baltimore after the war. Dr. Pincoffs remarked "You never know when such experience will be of use."

Failing health and the troublesome effects of renal calculi hastened Dr. Pincoffs' return to the states. After the war, he returned to Baltimore and continued to wear his military uniform for a number of months. This added a little more authoritative presence to the charge given him by the Board of Regents of University of Maryland. As Assistant for Medical Affairs to President Harry C. (Curley) Byrd from 1949 to 1950, Dr. Pincoffs helped formulate plans for the school's future and assisted in attracting key personnel to the Baltimore faculty. William S. Stone's appointment as Dean of the School of Medicine was consummated during this period. During the war interim and for a while thereafter, Drs. T. Nelson Carey and Thomas Sprunt served as Acting Chairmen of the Department of Medicine.

Retirement

In 1954, Dr. Pincoffs retired as Chairman of the Department of Medicine. He then turned his interests to the social and medical problems in a changing environment and organized a new Department of Preventive Medicine and Rehabilitation that he headed until 1957, when he retired from teaching and became emeritus professor. Dr. Pincoffs continued his private consultative practice at the University of Maryland Hospital and accepted invitations for teaching throughout the east coast, where he was well known. One memorable trip took Dr. and Mrs. Pincoffs west to Washington state, which gave him a chance to relive some older experiences.

On the occasion of Dr. Pincoffs' retirement, the faculty of the University of Maryland School of Medicine, his friends, his former house officers, and patients



Figure 8. Col. Pincoffs (left) in New Guinea during World War II with Col. Eugene Eppinger.

honored him with a testimonial dinner. A portrait of him was unveiled, which now hangs at the entrance of Davidge Hall. A lectureship was established in his honor which brought distinguished educators to the Baltimore campus.

In 1956, Dr. and Mrs. Pincoffs acquired a summer home at Gibson Island, which enabled them to enjoy the company of their children and grandchildren and to be near the Bay should a brisk wind prevail.

On December 8, 1960, the long and distinguished career of Maurice Charles Pincoffs (then age 74) ended. He died at the University of Maryland Hospital after a brief illness. Services were held at the Cathedral Church of the Incarnation. Dr. Pincoffs was buried with military honors on a snowy day in the section of the National Cemetery reserved for holders of the Distinguished Service Cross. Katherine R. Pincoffs, his loving and devoted wife, survived until 1981.

The medical profession will remember Maurice C. Pincoffs as one of Maryland's foremost medical teachers, clinicians, counselors, and medical administrators. His mind and his labors were shaped by and helped

shape an era of almost ceaseless medical progress. Each of Baltimore's medical schools could boast of his life and accomplishments. The Johns Hopkins University took pride in him as a loyal alumnus. The University of Maryland School of Medicine acknowledged him as its most distinguished faculty member. Maryland could

view with pride his long service and insight that brought to its citizens increased opportunities for help in alleviation of human illness. At his retirement dinner, it was aptly remarked: "Maurice Pincoffs is a true disciple of Aesculapius."

Resident physicians who served during Dr. Pincoffs' tenure as Physician-in-Chief of the University Hospital and as Professor and Head of the Department of Medi-

cine, School of Medicine, from 1922-1954. (From 1942 to 1946 Dr. Pincoffs was on leave of absence for service in the Armed Forces during World War II).

UNIVERSITY HOSPITAL

1922-23	Dr. Leon Freedom
1923-24	Dr. Bricey M. Rhodes
1924-25	Dr. William S. Love
1925-26	Dr. Thomas A. Clawson
1926-27	Dr. Edgar R. Miller
1927-28	Dr. Frank F. Lusby
1928-29	Dr. Charles E. Gill
1929-30	Dr. Lewis P. Gundry
1930-31	Dr. Benjamin H. Kendall
1931-32	Dr. John H. Hornbaker
1933-35	Dr. H. Vernon Langeluttig
1935-37	Dr. Joseph H. Holmes
1937-38	Dr. John A. Myers
1938-39	Dr. Francis G. Dickey
1939-40	Dr. Edward F. Cotter
1940-41	Dr. John T. Atkins
1941-42	Dr. Samuel T. R. Revell, Jr.
1942-43	Dr. L. Harrell Pierce
1943-44	Dr. W. H. Townshend, Jr.
1944-45	Dr. M. Virginia Palmer
1945-46	Dr. Alvin H. Honigman
1946-47	Dr. H. Pearce MacCubbin
1946-47	Dr. James R. Karns
1947-48	Dr. Ernest G. Guy
1948-49	Dr. William T. Raby
1949-50	Dr. Robert E. Bauer
1950-51	Dr. W. Carl Ebeling, III
1951-52	Dr. John A. Hightower
1952-53	Dr. Francis J. Borges
1952-53	Dr. Kyle Y. Swisher
1953-54	Dr. Howard F. Raskin

MERCY HOSPITAL

1923-24	Dr. H. Raymond Peters
1924-25	Dr. Fred T. Kyper
1925-26	Dr. F. B. Dart*
1926-27	Dr. Thomas B. Turner
1927-28	Dr. J. Sheldon Eastland
1928-29	Dr. T. Nelson Carey
1929-30	Dr. David Tenner*
1930-32	Dr. Earl R. Chambers
1932-34	Dr. J. Howard Burns
1934-35	Dr. George H. Carr, Jr.
1935-36	Dr. Philip D. Flynn
1936-37	Dr. W. Grafton Hersperger
1937-38	Dr. William H. Grenzer
1938-39	Dr. John T. Atkins
1939-40	Dr. S. Edwin Muller
1940-41	Dr. Frederick J. Vollmer
1941-42	Dr. William H. Kammer, Jr.
1942-43	Dr. Donald J. Roop
1943-44	Dr. William S. Lowe*
1944-45	Dr. John R. Davis
1945-46	Dr. J. Emmett Queen
1946-47	Dr. Edward S. McCabe
1947-48	Dr. Richard A. Carey
1948-49	Dr. Joseph J. Bowen
1949-50	Dr. Joseph F. LiPira
1950-51	Dr. Thomas P. Connor
1951-52	Dr. Howard F. Raskin
1952-53	Dr. Charles R. Ireland
1953-54	Dr. E. Paul Coffay, Jr.

*Deceased

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CURRICULUM VITAE

MAURICE C. PINCOFFS, M.D., M.A.C.P.

PERSONAL HISTORY

Born: August 6, 1886, Chicago, Illinois. Son of Maurice Henry Pincoffs and Louise Pincoffs (nee Henrotin).

Married: March 1, 1919, to Katharine R. Randall; three children—Maurice Charles, Susan Katharine and Peter H. Pincoffs.

EDUCATIONAL BACKGROUND

Bachelor of Science, 1909, University of Chicago

Degree in Medicine, 1912, Johns Hopkins University, School of Medicine

Internship, 1912-1913, Presbyterian Hospital, Chicago

Residency, 1913-1915, City Hospitals, Baltimore

ACADEMIC AND MEDICAL STAFF APPOINTMENTS

Assistant in Anatomy, University of Chicago, 1910

Research Assistant, Department of Pharmacology, Johns Hopkins University, School of Medicine, 1915-1917 (Dr. John Abel)

Clinical Assistant to Dr. L. H. Barker, 1915-1917

Instructor in Medicine, Johns Hopkins University, School of Medicine, 1919-1921

Professor of Medicine and Head of the Department, University of Maryland, School of Medicine, 1922-1954

Assistant to the President, University of Maryland, for Medical Affairs, 1949-1950

Professor of Preventive Medicine and Head of the Department, University of Maryland, School of Medicine, 1954-

Physician in Chief, University Hospital, 1922-1954

Consulting Physician, Mercy Hospital

MEMBERSHIP IN PROFESSIONAL SOCIETIES AND COMMITTEES

Consultant, Baltimore City Health Department, 1935-

Member, Maryland State Board of Health, 1942-

Member, Medical Advisory Committee to Secretary of War, 1947-1948

Member, Armed Forces Medical Advisory Committee to Secretary of Defense, 1949-1951

Chairman, Committee on Medical Care of the Maryland State Planning Commission, 1930-1941 and 1946-1951

Member, Advisory Council, National Institute of Arthritis and Metabolic Diseases, 1953-
 Editor, Annals of Internal Medicine, 1932-
 Consultant, Clinical Center, National Institutes of Health, 1953-
 Member, Advisory Editorial Board, History of Internal Medicine in World War II, Medical Department, U. S. Army, Office of the Surgeon General, 1948-
 Member, Scientific Advisory Board, Army Institute of Pathology
 former President, American Clinical and Climatological Association, 1949
 former President, American College of Physicians, 1951-1952
 former President, Medical and Chirurgical Faculty of Maryland, 1953
 former Vice-President, Society of Medical Consultants, World War II, 1946
 Member, Council of the Medical and Chirurgical Faculty of Maryland
 Member, American Clinical and Climatological Association
 Member, Association of American Physicians
 Member, Cosmopolitan Club
 Member, Eclat Club
 Member, Society of Medical Consultants, World War II
 Member, Johns Hopkins Medical Association
 Member, Baltimore City Medical Society
 Member, The Horse Shoe Club, London
 Honorary Member, American Rheumatism Association
 Master, American College of Physicians
 Fellow, American Medical Association
 Member, Maryland Club

Dr. Pincoffs was elected a Fellow of the American College of Physicians in 1923 and a Master in 1947. He served as the College Governor for the State of Maryland from 1926-1929 and as a Regent from 1929-1932, First Vice-President, 1932-1933, and thereafter as a Regent ex-Officio by reason of being the Editor of the "Annals of Internal Medicine," until 1950, when he was made President-Elect.

MILITARY SERVICE

Captain, Medical Corps, U. S. Army, 1917-1919; Colonel, Medical Corps, U. S. Army, 1942-1946; Chief Consultant, USAFFE; Chief of Preventive Medicine, AFPAC; Awarded Distinguished Service Cross, Legion of Merit with Oak Leaf Cluster (U.S.); Croix de Guerre with Palm (France).

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MAURICE C. PINCOFFS, M.D., M.A.C.P.

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CURRICULUM IN MEDICINE 1932

Faculty Members: Maurice C. Pincoffs, Gordon Wilson, Standish McCleary, Joseph E. Gichner, G. Carroll Lockard, Harvey G. Beck, Harry M. Stein, Paul W. Clough, C.C.W. Judd, Sydney R. Miller, Walter A. Baetjer, William H. Smith, H.J. Maldeis, C.C. Habliston, S. Lloyd Johnson, John G. Huck, George McLean, L.A.M. Krause, H.R. Peters, H.M. Bubert, W.S. Love, Jr., J.S. Eastland, Thomas C. Wolfe, T. Nelson Carey, M.G. Gichner, William A. Strauss, Henry Sheppard, Wetherbee Fort, Henry C. Smith, Frank J. Geraghty, L.P. Gundry, Samuel T. Helms, Nathaniel Beck, Carl Benson, A. Scagnetti, Bernard Cohen, W.H. Triplett, David Tenner, M.P. Byerly, Earl L. Chambers, H. Edmund Levin, J. Howard Burns, Lawrence Serra, J.G. Feman, M. Fine

The curricular structure was not significantly changed from the schedule described in 1923–24. Gastroenterology under Dr. Julius Friedenwald continued as a subspecialty program. During the *third* year, a series of fourteen lectures on diseases of the digestive tract was given. An elective course in Cardiology for senior students was initiated at the Mercy Hos-

pital for one and a half hours weekly. Syphilis was given special attention during the *third* year and an elective course in therapeutic management of syphilis was offered in the dispensary. Clinical pathology (laboratory medicine) continued as a strong and practical course of instruction during the junior year.

DEPARTMENT OF MEDICINE BETWEEN TWO GREAT WORLD WARS 1920-1945

Historical Perspective in Relation to Hospital Activities

In 1915, the amalgamation of the College of Physicians and Surgeons was completed, which, with the Baltimore Medical College (site of Maryland General Hospital which affiliated in 1913), then comprised the University of Maryland School of Medicine. Located at Saratoga and Calvert Streets, the College of Physicians and Surgeons included the Mercy hospital whose faculty added considerable strength to the programs of the Maryland Medical School and Hospital. Affiliation with the Mercy Hospital has been a tradition of long-standing which provided excellent opportunities for medical students to train under clinicians whose educational competence stemmed from their broad experience as practitioners of medicine.

Such eminent men as Samuel Taylor Darling, who first described histoplasmosis in Panama in 1905, graduated at the College of Physicians and Surgeons in 1903 with his classmate, Edgar Friedenwald; Doctor Friedenwald, a member of a distinguished Baltimore family, became a leading pediatrician.

Sophomore Course in Medicine and the Hospital

During these years, the curricular course in medicine was straightforward and stressed the practical clinical skills of medicine aimed at preparing candidates for medical practice.

The second semester of the sophomore year was devoted to teaching the technique of examination of the patient with all exercises experienced in the hospital. Whole class lectures were given on the technique of history taking and instruction in physical examination by such clinicians as Dr. Conrad Wolff, Dr. Wetherbee Fort, Dr. T. Nelson Carey, Dr. Frank J. Gerhaghty, Dr. Lewis Gundry, Dr. John T. Legge, Dr. William S. Love, Dr. Milton Kress, Dr. Maurice C. Pincoffs, Dr. J. Sheldon Eastland, and others. Groups of ten or more students met with a designated preceptor mostly in the University of Maryland Hospital and others throughout the city which included Mercy, Sydenham, Eudowood Sanatorium, Baltimore City Hospitals and Kernans Hospital. The more attentive and interested preceptors held group discussions of specific findings of organ systems and assigned topics to students which were expected to be completed and re-

ported. The preceptors, who were busy practitioners, took great pride in their instruction of students since they received no compensation, only a faculty appointment, which was sufficient reward. These physicians ranked among the leading practitioners in Baltimore.

Doctor Wolff was an extremely diligent and competent cardiologist who stressed bedside findings. Milton Kress, a life-long friend and associate of Abraham (Finky) Finkelstein, took special pains to stress the art of and value of percussion. All stressed the importance of bedside observation for clues.

Blended into the sophomore course were a series of lectures and laboratory exercises entitled "Clinical Pathology." Doctor John G. Huck, an able practitioner and clinical hematologist, was responsible for this course. This was a structured course which comprised lectures and laboratory exercises on Wednesday afternoons throughout the sophomore year. All known aspects of hematology were covered; students regularly performed blood counts and blood smears. All of the laboratory aspects of malaria, leukemia, various types of anemias were solidly ingrained. Through practical exercises, stool and urine specimens were thoroughly analyzed under normal and abnormal conditions, purulent exudates were examined, most aspects of parasitology were covered, students quantitatively analyzed fractional urine specimens for glucose, albumin and other components. Students, who worked in pairs, passed gastric tubes on either themselves or their partners for stomach analysis and personally analyzed the gastric contents. This was old-fashioned, good, solid teaching which provided information essential for the practice of medicine. Physicians who worked in their offices were accustomed to examining blood, urine, fecal specimens and exudates themselves and patients expected this service as part of their professional care. There were no private laboratories and physicians had a microscope and chemical reagents in their offices. In the hospital, fewer laboratory procedures were ordered in comparison with the 1980's because students and house officers regularly performed many procedures themselves without charge.

Before successful completion of the laboratory course, each student was expected to prepare an almost perfect red blood cell smear on cover slips with the erythrocytes side by side without overlapping. This was a neat trick which required some dexterity.

Beginning in 1936, Dr. Milton Sacks, who had completed his training in medicine and pathology at the Mercy Hospital, joined the faculty of the University of Maryland. He succeeded Dr. Howard J. Maldeis and later Doctor Huck as Director of the University of Maryland Hospital Laboratories and, in 1947, became Head of the Division of Clinical Pathology.

Doctor Sacks reorganized the sophomore course of instruction in laboratory medicine which spanned the entire year, each Wednesday afternoon. The first semester was devoted to hematologic abnormalities with practical laboratory instruction given to all students. There were instructors who were busy medical practitioners assigned as preceptors for groups of nine to ten students. The course was excellent and in spite of the usual comments about performing "scut work," it was popular and always solidly attended. Instructors received a small annual stipend for their contributions although each participated in teaching because of interest and not for financial return. Doctor Sacks directed the hospital laboratories which were under the general direction of the Department of Medicine until 1969.

Dr. Carroll S. Spurling was a particularly effective contributor, who, in 1964, succeeded Doctor Sacks after his death as Director of the course. A special tribute to Doctor Spurling came from the medical students who, on several occasions, cited him for the top teaching award in the basic sciences. Dr. Marie Andersch joined the faculty in 1943 and achieved the rank of Associate Professor of Clinical Biochemistry. She contributed significantly to this course until her retirement in 1966. Dr. Rouben Jiji and Dr. Stanley Miller were reliable instructors who helped make the course of instruction so successful. All of these faculty members were active in the hospital laboratory programs.

Doctor Sacks was active in work on leukemia and Hodgkins disease and was the first in Maryland to develop new knowledge regarding Rh factors. Along with Dr. Louis Douglass, he developed the initial Rh Laboratory in Maryland which placed the hospital and school in the forefront of this aspect of medicine. The Rh Laboratory started in the Bressler Building and later was moved to 513 West Lombard Street when this building was acquired through the generosity of a donor. The Division of Hematology attracted patients and requests for laboratory work throughout Maryland and neighboring states. Without question, Milton Sacks was a most effective and persuasive lecturer who skillfully incorporated the relevant historical data with the known basic and clinical knowledge of hematological disorders. Unfortunately, his life was cut

short with his death in 1964 of hypertension and chronic renal failure.

Later, in 1969, this curricular program and course in laboratory medicine came to an abrupt halt with the decision by Dean John H. Moxley of the Medical Faculty to transfer responsibilities for direction of the hospital laboratories from the Department of Medicine to the Department of Pathology. At that time, this well-organized course in laboratory medicine ceased and only a few of its rudiments were blended into the curricular program of the Pathology Department.

Unfortunately, when this course was deleted, as such, after mid-century, students in the clinical years, who ultimately became house officers, soon lacked the essential skills and became obligingly accustomed to deriving such data from the hospital laboratory by reading a laboratory report. These unfortunate changes prompted Doctor Spurling, head of the division, to resign his faculty position; he accepted the post of Director of the Blood Bank Program in Los Angeles.

At this time, the volume and patterns of referred work changed. Practical experience by students including examination of specimens diminished drastically.

The Junior Medical Clinical Clerkship and the Hospital

In the 1920's and 1930's, Davidge Hall was the site of whole class lectures, which were numerous, since the course of instruction was largely didactic. More than 1,200 lectures were delivered in either Chemical or Anatomical Hall during the junior year from September 1936 until June 1937. Students were seated alphabetically making roll call easy since an empty seat was readily noticeable. Absenteeism was minimal. Lectures by Dr. Gordon Wilson, Dr. Maurice C. Pincoffs, Dr. Louis A. M. Krause and other talented teaching nonsalaried physicians were thoroughly objective and particularly informative. Some of the most effective didactic sessions were the clinical pathological conferences attended by junior and senior medical students. These were combined sessions presented by the Department of Pathology and other clinical departments, primarily Internal Medicine. Dr. Hugh R. Spencer, Chairman of the Department of Pathology, was the moving force behind these effective conferences. He joined the medical faculty as a pathologist in 1915. His sole motive was to assure an effective and informative teaching conference for faculty, house officers and students. Doctor Spencer chose comprehensive case records and delighted in testing the ability of the clinician. Important or key information was never withheld. Few, if any, clinicians anywhere surpassed these teachers in presenting effective clinical exercises. Drs. Maurice C. Pincoffs, T. Nelson Carey, Louis A. M. Krause, Harry Stein and Lewis Gundry were most effective in discussion of clinical

pathological conferences and popular as lecturers and in small group clinical teaching.

Some lecturers often tended to be dull and uninspiring. Just the opposite was true of Doctor Pincoffs and Doctor Krause who, drawing from their depth of clinical experience and knowledge of the pertinent literature, received constant and eager attention. Those men who were particularly effective as bedside and practical physician teachers were Nelson Carey, Harry Stein, Lewis Gundry, Samuel Morrison and Frank Geraghty.

A rather unattractive feature of the junior clerkship was the requirement to complete and successfully pass a series of endless written examinations in all disciplines which extended over two weeks of panic.

During the junior year, students received practical instruction in the medical outpatient clinic in the old hospital. Under guidance, they worked with patients and recorded their findings of the medical history and physical examination. Dr. Conrad Acton, Dr. William Helfrich, Dr. Walter Karfigin, Dr. John Legge, Dr. Kurt Levy, Dr. William Fearing, Dr. Kennedy Waller and others were busy practitioners who taught effectively in the medical clinic.

Senior Clerkship in Medicine

Each of the few organized divisions sponsored weekly specialty clinics; patients were hospitalized on the private general medical or ward service without separation into special beds.

Some of the subspecialties were sufficiently organized to provide constructive instruction. In gastroenterology, Dr. Julius Friedenwald was particularly effective with great stress placed upon functional intestinal disorders. Primarily based at the Mercy Hospital, he is credited with having been the first full Professor of Gastroenterology in the United States. The Friedenwald Award of the American Gastroenterological Association is a memorial to him. Dr. George McLean and Dr. Zachariah Morgan taught this specialty as did Dr. Samuel Morrison, a pupil and devoted disciple of Dr. Friedenwald. His lectures were objective and well-prepared.

Clinical aspects of lung diseases were always thoroughly taught in the classroom and at the bedside. This was Dr. Gordon Wilson's forte during the years between 1922 until his death in 1932. Dr. Charles Hablston, Dr. Harry Stein and Dr. Frank Geraghty were clinically highly competent in their knowledge of chest diseases as were Dr. Milton Kress, Dr. Vernon Langeluttig, and Dr. Abraham Finkelstein, who taught so effectively about tuberculosis in children.

The clinical and practical diagnostic aspects of hematology were thoroughly covered by Dr. Hugh Spencer, Dr. Huck, Dr. Thomas Sprunt, Dr. Milton Sacks, Dr. Carroll Spurling, and a few others. At the Mercy Hospital, Dr. Raymond Peters, who was Physician-in-Chief and directed the Department of Medicine from 1942 to 1960, initiated the first clinical pro-

gram of anti-coagulation in the country for treatment of myocardial infarction.

During this period, up to 1948, there were no specifically organized programs for teaching of infectious diseases, rheumatology, nephrology or endocrinology except by internists who had additional interest in these fields.

There was structured didactic teaching in neurology. For many years, Dr. Irving Spear lectured and gave clinical sessions which, according to the uninformed, seemed to excessively focus upon functional disorders and neuroses. This viewpoint, often held by many students, was false since emotional instability was later to comprise a large segment of their medical practice. He was joined by Dr. George M. Settle, who ranked highly as a clinical neurologist and teacher. Dr. Leon Freedom was effective in relating clinical manifestations to localized lesions of the brain or spinal cord. He made important scientific contributions on the localization of cerebral centers with respect to function. During the 1930's, Dr. James A. Arnold, a leading Baltimore neurologist, effectively taught students and house officers; he stressed neuroanatomy and its important relationship to the practice of neurology and neurosurgery. Doctor Arnold later undertook a surgical house officership in 1939, and became one of Baltimore's leading neurosurgeons. Throughout this period, much neurology was taught by neurosurgeons, such as Dr. Charles Bagley, Dr. Richard Coblentz, Dr. R. K. Thompson, Dr. William Mosberg and others.

Dermatology at Maryland was a subdivision of surgery until about 1944, when it was transferred to the Department of Medicine. The school and hospital were always strengthened with outstanding clinical dermatologists and Maryland students graduated with a full and fundamental background of skin diseases. Dr. Harry M. Robinson, Sr. directed this division for many years and a large cadre of dermatologists assisted. Senior students were regularly assigned to the dermatology clinic for practical patient contact and group instruction. Tissue smears and dark-field examinations were performed regularly and until World War II syphilis was a common medical disorder. Students were responsible for giving arsphenamine and bismuth injections to syphilitic patients in the clinic. Great care was taken to ensure that the arsenical was given intravenously rather than into the tissues which invariably resulted in a nasty area of necrosis.

For many years, Dr. Huntington Williams lectured in public health and arranged practical field trips to farms, dairies and the city reservoir. None will forget his session on preventive vaccines when he brought a large cake of ice with a vial of smallpox vaccine in the center. Preventive Medicine and Rehabilitation was organized as a new department in 1954 with Dr. Pincoffs as Chairman. A medical clinic for indigent patients was organized under the new department in the outpatient area. Dr. Henry Holljes performed clinical

work in this newly developed service which was housed on the second floor of the old hospital.

House Officer Programs

The clinical instruction for students did not allow sufficient patient contact which made it essential for graduates to undertake rotating-type internships. Usually these involved two-year appointments during which period there was ample patient responsibility, under supervision, in general surgery and its subspecialties of neurosurgery, orthopedics and urology, general medicine, pediatrics, gynecology and obstetrics, and laboratory and emergency room, the latter for two months each. The work was hard and long with little time off. Rooming, meals and laundry were provided; that was all, no salary. Everyone lived in. Occasionally, house officers sold a pint of blood (\$50. per pint) when their names reached the top of the donor list. It was a little difficult to reach the top of the donor list ahead of the senior resident staff.

In this background, those entering the field of Internal Medicine became assistant residents. This house officer carried heavy responsibility for coverage of two full medical wards of about 25 patients each; a medical assistant resident supervised the work of two interns. All served under a chief medical resident, who was responsible for the standards of practice on the ward and private medical services. The chief resident set the tone for the teaching service and answered to the departmental chairman and to the attending physicians who served on assignment under the chairman. Rounding was at the bedside when case material would be presented followed by questions from faculty members and house officers directed to the preceptor. Often the preceptor gave the sole discussion, including directions for diagnostic studies and therapy. Discussions were brief.

There were no medical grand rounds during this period except for a weekly conference in a small room when the chief resident would choose a case for presentation to the Chief of Service. These were presented without prior planning or preparation, just good solid practical teaching.

There were two ward services and two specific private medical services. On the medical floor, an intern carried about thirty patients; a medical assistant resident supervised the work of two interns. On the private floors, Doctor Pincoffs's patients comprised one service and a second unit included the other private attending physicians. Nelson Carey carried a large private caseload and was popular as a bedside instructor. Often he was impatient, always exacting and never failed to serve his patients. There were about thirty patients on each service which made the working hours long and the free time sparse. The house officer usually recorded the clinical note as it was dictated by the attending physician at the bedside.

During all of this training experience, the intern and

medical assistant resident performed the key laboratory procedures—urinalysis, spinal fluid evaluation, stool analysis, smears, counts, gastric analysis, fractional urine specimens for glucose, and many others. Blood specimens were planted for culture by the house officer who also performed pneumococcal typing of sputum specimens in patients with pneumonia and matching of blood prior to transfusions. Examinations and collection of sputum and blood were made in the emergency room. Usually an efficient house officer examined sputum with typing of the pneumococcus and processed blood for culture in twenty to thirty minutes. This explained why nights off were scarce since work continued night and day. There were not enough hands to warrant many free nights.

Some of the house officers who trained at the University of Maryland Hospital during this period and later became outstanding clinicians or academic internists were: Louis A. M. Krause, Leon Freedom, William S. Love, Lewis P. Gundry, T. Nelson Carey, Page Jett, John H. Hornbaker, Vernon Langeluttig, Francis G. Dickey, Edward F. Cotter, Harry M. Robinson, Jr., Samuel T. R. Revell, Jr., Ephraim T. Lisansky, Irving Freeman, W. Kennedy Waller, William Helfrich, Ernest Guy, H. Pearce MacCubbin, John T. Atkins, James R. Karns, Stanley E. Bradley, Joseph George, John Bunting, John Z. Bowers, Bernard O. Thomas, Theodore E. Woodward, John Wagner, William T. Raby, John A. Hightower, M. Virginia Palmer, W. Carl Ebeling, III, Howard F. Raskin, Francis J. Borges, Kyle Y. Swisher, Wilfred H. Townshend, Jr., and others.

After the first year of medical residency, most trainees took a year or two in pathological training and returned to the hospital for either a chief residency or for special work in a particular field. Not too many chose a purely academic career. Others immediately entered practice and usually found time to attend on the medical wards, work in the medical clinics, or in the few specialty clinics and to teach either physical diagnosis or laboratory medicine (clinical pathology) to students. Most of these physicians who settled in Baltimore used the University Hospital as their institution to hospitalize patients with referrals derived from the city, state and neighboring states. For this, they received a faculty appointment and the privilege of hospital practice. Only a few received a small annual stipend for teaching these courses. Professional time was contributed because it was a privilege to serve as a teacher and to render care to the patients, gratis, as partial repayment for the privilege of serving the public as a physician. This system prevailed in all teaching centers and the medical care rendered in these institutions throughout the country was of high order. The cost of medical care to the federal government was virtually nothing and the State of Maryland contributed very little in relation to the free professional care which the profession willingly rendered its

underprivileged citizens. All of the professional care to indigent patients in the clinics or hospital was rendered free of charge. The physician willingly contributed his professional care.

In later years, Medicare and Medicaid virtually destroyed much of this. Gradually the system of care for the underprivileged became expensive, very expensive. Indigent patients during this long period, as well as the current underprivileged ill person, received excellent medical and fully comprehensive care. Not all of the high cost of medical care in the 1970's resulted from the change away from the old system but change from that system was a significant contributing factor. Physicians were later instructed by the government to charge their usual fees for patients under federal and state programs. Technical advances, social changes, poor administrative medical management, professional, lay and governmental attitudes all contributed. The older system might well have succeeded had the medical profession taken the lead within academic centers and community hospitals to find a way to deliver more and better comprehensive health and preventive care through better planning, practical objectivity and clearer understanding regarding cost effectiveness.

From 1922 to the 1950's, Doctor Pincoffs directed the department program. His term was interrupted from 1942 to 1945 by his military service during World

War II. Dr. Thomas Sprunt and Dr. T. Nelson Carey served as chairmen alternately during this difficult period. At the Mercy Hospital, the medical service was directed by Dr. Raymond Peters until about 1960.

Dr. Henry J. L. Marriott joined the faculty in 1948, having trained initially at the St. Mary's Hospital, London. Based primarily at the Mercy Hospital, Doctor Marriott developed a creditable training program in cardiology there and at the University headed the Divisions of Physical Diagnosis and Arthritis for brief periods. He resigned his position in 1962 to become Director of Medical Education at the Tampa General Hospital. Dr. William Garlick and Dr. Edward Mueller, two senior staff physicians at the Mercy Hospital consulted with Doctor Woodward for suggestions regarding means to strengthen the educational and residency programs there. Subsequently, Dr. Vernon Smith was recruited as the first geographic full-time Head of Medicine at the Mercy Hospital. The training program was improved and he developed an effective Division of Gastroenterology. Dr. Joseph Meade succeeded Doctor Smith as Chairman; later, Dr. Jay S. Goodman, a former Maryland graduate, was recruited from Vanderbilt University Hospital to Mercy and he succeeded Doctor Meade as Chairman. Dr. Albert Antlitz, Dr. John Eckholdt, and Dr. William Dear participated actively at Mercy in Cardiology, Neurology, and Nuclear Medicine, respectively.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF BALTIMORE

Early History and Its Pioneer Physicians

The Washington Medical College, Washington University School of Medicine of Baltimore, had its first academic session in the fall-winter of 1827–28 in a building on North Holiday Street between Lexington and Saratoga. Dr. Horatio Gates Jameson, a native of Pennsylvania and graduate of the University of Maryland in 1813, was its founder. Jameson felt that he had been treated unfairly by the faculty of the Maryland Medical School. This, coupled with his natural ambition, led to the development of a rival medical school in Baltimore. Others joined him since the timing was favorable and the town was prosperous. Its site was at Calvert and Saratoga Streets on the eastern and unoccupied part of Baltimore.

The first period of its existence extended from 1827 to 1852, when classes were suspended because of a falling enrollment. The school was revived after the Civil War in 1867.

Dr. Edward Warren, Professor of *Materia Medica* and Therapeutics at the University of Maryland, left his post there at the outbreak of the Civil War and became Surgeon-General of North Carolina. After a delay, upon his return to Baltimore, he found his position on the university faculty no longer available. Warren learned that the Charter of Washington University was available and he gathered a group of able physicians and surgeons. Among them, like himself, were those who had served the Confederacy. It followed that many of the students of the new school came from former slave-holding states. For about six years the enrollment was high, about 155 per year, and the school competed well with the University of Maryland.

In 1872, disagreement entered the faculty ranks which resulted in the resignation of Doctor Warren. He joined with other recently arrived physicians in Baltimore to found another medical school, the College of Physicians and Surgeons of Baltimore, in 1872. Many other faculty members of the Washington University School of Medicine resigned which made recruitment there quite difficult.

The second period of the Washington University School of Medicine was from 1867 to 1877. In the spring of 1877, the school entered into an agreement with the College of Physicians and Surgeons to transfer to that school all of its franchise and property. The merger was later confirmed by an act of the legislature.

In 1875, a new building was erected especially for dissection which was well lighted and ventilated. The school announcement for 1876 stated that the hospital had been enlarged by the addition of five wards and was under the charge of the Sisters of Mercy. It is of interest that a state appropriation in 1868 enabled the college to purchase ground on the northwest corner of Calvert and Saratoga Streets from the Mayor and City Council of Baltimore at so low a figure that it practically amounted to a donation. By 1872, the faculty had erected a new building in connection with the hospital which permitted closeness between the lecture rooms and hospital wards.

The City Hospital, as it was called, came under the control of the College of Physicians and Surgeons (P and S) in 1877. There were twenty-five free beds in the hospital, a dispensary attached to it; from March, 1882 to March, 1883, the total number of visits made by outpatients was 10,401.

A department for the treatment of rabies by the Pasteur method opened at the City Hospital, Baltimore, under the auspices of the College of Physicians and Surgeons, April 13, 1897. Dr. Nathaniel Garland Keirle was its Director.

The College of Physicians and Surgeons flourished from its strong beginning. Its graduates and faculty members made notable contributions to medicine in Baltimore and elsewhere. Some of these physicians and their contributions follow.

Prominent Graduates and Faculty Members of the College of Physicians and Surgeons Baltimore (1872–1915)

- | | |
|---------|---|
| 1857 | Dr. Abram B. Arnold (BMC), Professor of Clinical Medicine and Diseases of the Nervous System (P and S 1872–1880). Reported the first three cases of scleroderma in the United States. |
| 1873–82 | Dr. Aaron Friedenwald (U of M 1860), Professor of Diseases of Eye and Ear (P and S). First to report the Graefe method of iridectomy for glaucoma in American literature. Founding member of Association of American Medical Col- |

- leges (1890). Father of four illustrious sons, Julius, Jonas, Edgar, Harry.
- 1878 Dr. George H. Rohe (U of M 1873), Professor of Clinical Dermatology and Hygiene (P and S 1878–80). First publication of leprosy in Maryland.
- 1888 Dr. Leonard E. Neale (U of M 1881), Professor of Obstetrics (P and S 1893). Inventor of axis traction forceps.
- 1890 Dr. William Thomas Councilman (U of M 1878). Taught classes in pathology at U of M and P and S 1883–86. Made first description of an acidophilic body in patients with yellow fever, known as "Councilman bodies."
- 1894 Dr. Thomas Gilchrist (M.B. London, Honorary M.D. U of M 1907). Clinical Professor of Dermatology, U of M (1897). Teacher at P and S. First description of blastomycosis.
- 1900 Dr. John Rurah (P and S 1894). Dean of Baltimore Pediatricians, Professor of Pediatrics (P and S 1916). Made first collective investigation of actinomycosis in the United States. Introduced soybean in infant dietetics, 1909.
- 1903 Dr. Wayne Babcock (P and S 1893). Professor and Chairman of Surgery, Temple University School of Medicine for forty years. Author of standard *Textbook of Surgery*. Innovator of numerous surgical procedures.
- 1905 Dr. Charles Edmund Simon (U of M 1890), Professor of Clinical Pathology and Experimental Medicine (P and S) and pathologist at Mercy Hospital. Later faculty member, Johns Hopkins School of Public Health and Hygiene. Pioneer virologist who early recognized the importance of filtrable viruses and established a laboratory for study. He organized one of the first formal courses on the subject and initially established filtrable viruses as a separate discipline.
- 1906 Dr. Samuel Taylor Darling (P and S 1903). Instructor, Pathology (P and S 1904, Hon. D.Sc. U of M 1923). First description of a new disease, histoplasmosis, in Panama, 1905. Stressed importance of splenomegaly as an index of prevalence in malaria in endemic areas. Advocate of mosquito control by species identification. First to describe *Toxoplasma gondi*. Initial complete description of life cycle of *Entamoeba histolitica*.
- 1909 Dr. Nathaniel Garland Keirle (U of M 1858), Professor of Pathology (P and S), Director of Pasteur Institute (P and S). Author of first *Monograph on Rabies in Maryland*.
- 1903 Dr. Maurice C. Pincoffs (JHU 1912), Dr. Louis A. M. Krause (U of M 1918), Professors of Medicine (Mercy). In 1930, identified the index case of endemic typhus fever (Dr. Joseph Lipsky, the patient) at Mercy Hospital. This led to initial isolation of *Rickettsia typhi* (mooseri) in rats and fleas by Dyer et al.

REORGANIZATION OF THE DEPARTMENT OF MEDICINE

Up to 1948, there were no full-time teachers in clinical medicine or in any of the other clinical disciplines of the University of Maryland Hospital. At that time, Dr. Maurice C. Pincoffs was paid a part-time salary as Chairman of the Department of Medicine. In that year, Dr. Theodore E. Woodward joined the department on Doctor Pincoffs's invitation as the first geographic full-time member of the department. Teaching of medical students and a small house staff as well as patient care was rendered by part-time, nonsalaried physicians who were engaged in active medical practice in Baltimore.

The only partially structured divisions within the department were cardiology under Dr. William S. Love, physical diagnosis under Dr. Conrad Wolff, dermatology under Dr. Harry M. Robinson, Sr., and clinical pathology under Dr. John Huck. Soon, Dr. Milton Sacks joined the department as head of clinical pathology. The budget of the Department of Medicine was approximately \$40,000 per annum.

Beginning in 1948, new divisions were organized and developed with an active research and teaching program initiated in infectious diseases. The laboratory facilities were relatively nonexistent, nor were there financial resources for support of investigative studies, purchase of equipment and payment of personnel, etc.; these had to be recruited from outside sources.

Interest and capability in diseases of contagion expanded in 1948. A new division was established with laboratory space acquired on the fifth floor of Bressler Building with use of facilities not being used by other clinical departments. An initial grant in the amount of \$10,000 from the McCormick and Company, Inc. came through the generosity of its President, Mr. Charles P. McCormick. This made it possible to pursue studies on the efficacy of antibiotics, particularly chloramphenicol, in Baltimore and in Puerto Rico. Serious infectious diseases, such as typhoid fever, Rocky Mountain spotted fever, meningitis, brucellosis, tularemia, bacteremia, plague and other serious disorders were investigated intensively in Baltimore and abroad. The McCormick Company made a second award the following year. This was followed by a generous grant from the Parke Davis and Company, Detroit, which extended over several decades. This made it possible to expand the division, purchase es-

sential equipment and recruit new personnel. Additional awards soon came from other pharmaceutical firms, such as the Lederle Laboratories, Pfizer, and Wyeth and Company. With these beginnings, support came from federal agencies, such as the Department of Defense Medical Research and Development Command and the National Institutes of Health of HEW. Doctor Woodward organized and directed the Division of Infectious Diseases until 1954. Dr. Robert T. Parker succeeded him as director of the division.

A fellowship training program was developed. Clinical studies in volunteers began in 1952, which program was expanded using prison inmates who willingly volunteered. Dr. Fred R. McCrumb, Jr. joined in this innovative work and directed the division activities from 1958 to 1963. Dr. Richard B. Hornick became director in 1963 and, under his leadership, clinical studies of the pathogenesis, prevention and control of infectious diseases were greatly extended. This program became a model of its type and during the next several decades contributed much new knowledge on pathogenesis and control through the use of vaccines.

Among the scientifically significant contributions during the early phases of division activities were reports of the first known specific cures of typhoid fever, scrub, murine typhus and Rocky Mountain spotted fevers, broad spectrum antibiotic treatment of plague and bacterial meningitis, trials of efficacy of measles vaccine and initiation of trials in volunteers aimed at determining efficacy of biologic vaccines such as those for control of typhoid fever, tularemia, Q fever and RMSF. Evaluation trials for other enteric vaccines such as cholera, dysentery and toxogenic types of enteritis came later.

These were the salient features of the early reorganization and development of the Department of Medicine which began in 1948. Within each subspecialty division, the events which led to their organization and growth are given. Other divisions were soon developed which included neurology, under Dr. Charles Van Buskirk, endocrinology under Dr. Thomas B. Connor and Dr. John G. Wiswell, rheumatology under Dr. Henry J. L. Marriott, Doctor Adalbert Schubart, pulmonary diseases under Dr. William S. Spicer, nephrology—Dr. Samuel T. R. Revell and Dr. Francis J. Borges, gastroenterology—Doctors W. Carl Ebeling

and Howard F. Raskin, nuclear medicine (isotopes)—Doctors Joseph B. Workman and Robert Bauer. Also, a large cadre of part-time faculty members were encouraged to remain active. The ambulatory services clinic, directed during World War II by Doctor Levy, was placed under the direction of Doctor Revell and later Doctor Borges.

Within this framework, the medical service of the Baltimore Veterans Administration Hospital was developed as a sequel to the medical service at Fort Howard. This proved to be a significant development for the medical department. Dr. David Marine, and later, Dr. Patrick Storey, served as head of the medical service during the early stages. Pat was most effective as a teacher of lung disorders; later he became a leader on the field of community medicine at the University of Pennsylvania Hospital, Philadelphia.

A very significant metabolic study was conducted on the third floor medical service and in Dr. Samuel Bessman's pediatric clinical laboratory. Dr. Frank Borges and Dr. Joseph Fitzgerald, who worked with Doctor Bessman, clarified, for the first time, the relationship of mental confusion, cholemia hepatic cirrhosis and ammonia intoxication.

Beginning in early 1950, the affiliation in medicine at the Mercy Hospital was re-developed and a full-time program was initiated first with Dr. Vernon Smith

as head and later, Dr. Jay S. Goodman. Doctor Smith organized the medical service and developed a creditable teaching and practice unit in gastroenterology. This was aided by a generous grant from the Hartford Foundation which the department helped sponsor. There were similar developments at the Maryland General Hospital with Dr. Edward F. Cotter as head followed later by Dr. James Karns. Credit is due Ed Cotter for skillfully organizing the department into an effective teaching service.

Because of inadequate numbers of patients at the University of Maryland Hospital, junior students received much of their training at the Mercy, Maryland, Baltimore City and Veterans Administration Hospitals. Later, junior students received their training at the University of Maryland and Baltimore Veterans Administration Hospitals when the medical patient census increased. Senior students received much of their training in medicine at the aforementioned affiliated hospitals.

In 1952, there were inadequate numbers of in-hospital and clinic patients for training of the large number of medical students which necessitated well-structured and efficient affiliated hospital activities.

This brief summary describes activities and development of the Department of Medicine, post-World War II.



Prof. Julius Friedenwald
Gastroenterology



Prof. Samuel Morrison
Medicine - Gastroenterology



Prof. Harry M. Robinson, Sr.
Dermatology



Prof. William S. Love, Jr.
Cardiology - Pathology



Prof. Lewis P. Gundry
Medicine



Dr. Conrad Wolff
Medicine - Cardiology



Prof. Milton S. Sacks
Medicine - Hematology



Prof. T. Nelson Carey
Medicine



Dr. Francis Alva Ellis
Dermatology



Prof. Hugh R. Spencer
Pathology



Bedside Medicine with Dr. Pincoffs and Dr. Krause



A bedside conference with Dr. Howard F. Raskin and Dr. Aubrey D. Richardson

MID-TWENTIETH CENTURY—POST-WAR YEARS

Re-emphasis upon Clinical Clerkship-Preceptor Teaching

Development of Departmental Research in Clinical Medicine

The end of World War II witnessed the return of physicians to Baltimore who were needed sorely to assist those who were greatly burdened with their teaching of clinical medicine and patient practice responsibilities from 1941 to 1945. During the absence of Doctor Pincoffs, the department was alternately chaired by Dr. Thomas Sprunt and Dr. T. Nelson Carey, who contributed significantly as effective leaders for the part-time faculty and staff. Returning medical veterans either resumed or initiated their private practices and re-established affiliated teaching assignments. Few, if any, salaries were available except small emoluments for those who taught courses during the sophomore year in physical diagnosis and clinical laboratory medicine.

The war years did provide an opportunity for war-time physicians to broaden their knowledge of clinical medicine because of the exposure of the American soldier to pestilential, emotional and traumatic hazards thoroughly foreign to them under ordinary circumstances. These experiences, which were gained in spite of hardships and disappointments, served to stimulate (spark) an attitude of innovation and an interest in investigative research important for the advancement of medical science. This impetus with fresh concern for new knowledge aided the department and the School of Medicine in general and exerted a significant impact which was difficult to measure in the subsequent years.

Doctors Maurice Pincoffs and Louis Krause were among the senior faculty members whose war experiences in leadership roles merit special recognition. A large cadre of younger physicians who gained in medical stature during the war years were Lewis Gundry, Frank Geraghty, Kennedy Waller, Edward T. Cotter, Ephraim T. Lisansky, Irving Freeman, Vernon Lange-luttig, Harry M. Robinson, Jr., William S. Love, James R. Karns, Edward Muller, Samuel T. R. Revell, Jr., Timothy Callahan, John Z. Bowers, Theodore E. Woodward and others. Their return to Baltimore to join the overworked resident faculty during the critical post-war period was essential to ensure and secure the teaching and practice programs of the medical school and hospital.

Too much credit cannot be given to those few who worked incessantly at home during this critical five-year war period. In addition to Doctors Carey and Sprunt, there were Dr. Harry Stein, Dr. John T. Legge, Dr. Milton Sacks (Head of Clinical Laboratories), Dr. Kurt Levy (Director of Medical Outpatient Clinic), Dr. Harrell Pierce, Dr. Samuel Morrison (Clinical Gastroenterologist), Dr. Conrad Wolff (Head of Physical Diagnosis), Dr. Edward Leach (Cardiologist), Dr. Raymond Peters (Head of Medicine, Mercy Hospital), Dr. Sol Smith, Dr. Leon Freedom and Dr. Irving Spear in Neurology, Dr. Lawrence Serra, Dr. David Tenner and others.

Doctor Pincoffs did not resume departmental chairmanship immediately after the armistice and Dr. T. Nelson Carey served as Acting Chairman from 1945 to 1947. Doctor Pincoffs was Assistant for Medical Affairs to H. C. Byrd and gave important advice on recruitment of personnel for the school and hospital as well as guidance for general reorganization. During the short period, new departmental chairmen were recruited for pediatrics (Dr. J. Edmund Bradley), for obstetrics (Dr. Louis Douglass), for anesthesiology (Dr. John Nelson), for psychiatry (Dr. Jacob Finesinger), and others. Doctor Pincoffs resumed chairmanship in 1948, although he really never became fully separated from departmental affairs while engaged in other administrative duties.

At this point in 1948, the financial resources available to the department were critically low; interest in, and space for, research in clinical medicine was either limited or nonexistent. Hospital beds were sorely pressed. The source of patient referrals was from the State of Maryland at large and Baltimore City proper either by direct referral from physicians or through the channel of the busy emergency room and medical outpatient clinics. Several physicians, such as Doctors Pincoffs, Carey, Stein and Krause, were accustomed to an average of fifteen or more private in-hospital patients. The entire hospital service ward or free service was manned by a small, highly qualified house staff and a dedicated group of nonpaid, highly qualified practicing physicians who knew how to teach medical students and house officers to become effective phy-

sicians. During 1913 to 1922, under Dr. Gordon Wilson, and from 1922 to 1954, when Maurice C. Pincoffs assumed the Chair in Medicine, these clinical precepts continued to be taught by example.

In this setting in 1948, Doctor Woodward, after service in the Armed Forces, then a part-time teacher engaged in private medical practice in Baltimore, joined the Department of Medicine as the first full-time faculty member in medicine. This was after a successful research mission to Malaya. The salary was \$5,500 per year with an overpractice allowance of \$2,000. At this time, the department's budget included part-time salaries for the departmental chairman (Doctor Pincoffs), Director of the Clinical Laboratory and curriculum course in laboratory medicine (Dr. Milton Sacks), departmental secretaries (Mrs. Susan Pijoan and Ms. Martha Dilhoffer), secretary for the Clinical Laboratory, a clinical biochemist (Dr. Marie Andersch), Head of Cardiology (Dr. William S. Love) and small annual stipends for teachers of physical diagnosis, clinical pathology (laboratory medicine), and a few others, totaling less than \$50,000 per annum.

From 1948 to 1954, there was a period of re-evaluation, reorganization and an attitude of "let's see what happens." The general concept of "full-time" teaching and "full-time" teachers was threatening and generally unpopular particularly among the group of highly qualified and dedicated clinicians who had clearly been responsive and effective in promoting the goals and traditional objectives of the department and the school. Doctor Pincoffs, always one who recognized the importance of the solo practitioner of medicine, realized the necessity to maintain this posture but appreciated also the need to organize activities in a more

formalized and structured basis. Doctor Woodward directed his attention to departmental organization, curriculum reorganization, clinical research, to postgraduate teaching, training programs for medical interns and residents, and to developing departmental activities and fellowship programs. These objectives, clear in their meaning, required an understanding of the goals of the school and the Department of Medicine as well as a clear view as to whether clinical and basic research were essential to growth and development of a medical center in the mid-twentieth century. It seemed clear that medical events of the previous two decades, with the discovery of antibiotics and the remarkable progress witnessed during the World War II years, occurred at such a pace that a medical school and its teaching hospital must reshape goals and objectives to remain current and viable. It seemed as if a teaching institution without research would eventually fail.

There are ways to build when there are no recognizable resources at hand provided there is proper motivation, understanding, moral support and an accepted attitude with respect to mutually accepted goals. Clearly there was a firm base with established and dedicated clinicians. A clinical research base is best built upon a firm clinical base.

To achieve the accepted goals since there was a creditable clinical program, it was essential to reorganize or develop subspecialty divisions of medicine.

Complete reorganization of the school's curriculum was an absolute requirement for the school and its clinical departments to enable it to catch up to contemporary teaching practices.



H. M.
ROBINSON, JR.
*Professor of Derma-
tology and Head,
Division Derma-
tology*



S. E. MULLER
Assistant Professor



K. V. SWISHER, JR.
Assistant Professor



S. SCHERLIS
Assistant Professor



T. E. WOODWARD
Professor and Head



C. VAN BUSKIRK
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ology and Head,
Division Neurology*



I. FREEMAN
Assistant Professor



W. S. SPICER
*Associate Professor
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C. L. SPURLING
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E. F. COTTER
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S. T. R.
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C. E. SHAW
Associate



R. T. SINGLETON
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V. SMITH
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L. F. GONZALEZ
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B. HULFISH
Instructor



L. A. KOCHMAN
Associate



C. F. LIACH
Assistant Professor



L. A. M. KRAUSE
Professor



W. F. COX III
Associate



ROBERT MOSSER
Instructor



S. J. VAN LILL III
Associate

DEPARTMENT OF MEDICINE 1954-1975

Dr. Theodore E. Woodward was appointed the first full-time Professor and Head of the Department of Medicine in July, 1954. At that time, there were 96 medical students per class and less than 10 house officers in the Department. There were four sections of the Department—Infectious Diseases, Dermatology, Radioisotopes and Cardiology.

During the intervening years, the University of Maryland School of Medicine has undergone tremendous growth and the Department of Medicine has become the largest department. There are now 48 full-time faculty members and 10 Divisions of the Department, all of which have been under the direction of full-time faculty except Dermatology. The new Divisions which have been created are Hematology, Endocrinology and Metabolism, Nephrology, Rheumatology, Pulmonary Diseases, and Gastroenterology. Neurology was at first a Division of Medicine, but then became a separate department.

Each Division has specialized laboratory facilities and there are ongoing research programs in each Division. There are 44 Fellows in the Department. In recent years, support for Fellows has become more difficult because of the demise of training grants from the National Institutes of Health and restriction of research fellowships.

There are now 165 medical students per class and 62 house officers in the Department. The original budget for the Department was less than \$200,000, whereas today it is just under 2 million dollars. There is a general medical clinic, as well as specialty clinics run by all the Divisions, and the Department runs a Primary Care Clinic in conjunction with the Department of Social and Preventive Medicine. The Clinical Study Center opened in 1962 and received federal financing until 1970. This area, with patients and adjacent laboratories, made special studies possible and it is still being operated in a limited fashion.

Volunteer facilities have been established at the Maryland House of Correction and within the University of Maryland Hospital. Significant findings from studies at these facilities have increased our understanding of the pathogenesis, prevention and therapy of enteric infections, tularemia, malaria and respiratory viral diseases. A Coronary Care Unit is managed by the Division of Cardiology; all patients with suspected myocardial infarction are admitted to this unit and students and house officers obtain experience in specialized techniques. A dialysis unit is in full operation and there is a full-time renal transplant team operated jointly with the Department of Surgery.

In 1969, the Department of Medicine took over the operation of the Medical Service at the Veterans Administration Hospital on Loch Raven Boulevard. The latter subsequently came under the direction of Dr. Morton Rapoport and there are several full-time faculty members at this facility which has become an essential and integral part of the teaching program. Many students obtain their training in internal medicine at this hospital and all house officers rotate through its service.

During the years, space for the rapidly growing activities of the Department was at a premium. In early 1973, the new North Hospital Building opened and this has provided an enlarged area for all of the clinics, as well as offices for faculty and special treatment rooms. In 1976, an addition to Howard Hall will be opened which will provide more research laboratories for all departments.

The Department of Medicine maintains affiliations with Maryland General Hospital, Mercy Hospital, York Hospital, Montebello State Hospital and South Baltimore General Hospital. Fellows and house officers from these institutions receive periods of specialized training at the University of Maryland Hospital and some students receive their training in medicine at these institutions. The Department of Medicine has participated in courses of continuing education sponsored by the American College of Physicians and also many Divisions have organized one or two day programs for practicing physicians. More than 25 of our former students and house officers have been appointed to academic positions in prominent schools of medicine throughout the nation.

In a few years, each medical school class will be increased to 200 students per class. This will require additional faculty and facilities so that the Department of Medicine may continue to provide first-class teaching, patient care and research activities.

Dr. Woodward's contributions to this exponential growth of the Department and the School of Medicine were recognized by the Alumni Honor Award and Gold Key. His personal dedication to undergraduate and graduate teaching which he inculcates into his faculty by example are evidenced by the numerous times he has received the Golden Apple Award for clinical teaching and for the huge segment of time that he gives to teaching and attending rounds.

Written by John G. Wiswell, M.D. for the November 1975 issue of the Bulletin

DEPARTMENT OF MEDICINE
ANCILLARY ACTIVITIES
ESTABLISHMENT OF INTERNATIONAL CENTER FOR MEDICAL
RESEARCH AND TRAINING

Reprinted from Research and Educational Activities, Vol. 1, No. 3, June 1963

Along with four other medical centers in the United States, the University of Maryland received a grant from the Public Health Service to establish a Center for International Medical Research and Training. The award was made to the Departments of Medicine and Microbiology with Doctors McCrumb and Wisseman as Co-directors. These centers are designed to advance the studies of the health sciences in the United States and in other countries, thereby stimulating research and improving health. These are regarded as cooperative enterprises in health, research and training, and will provide suitable laboratory and clinical facilities and appropriate professional staff at Maryland and abroad. The research activities now currently under way include problems of nutrition, enteric diseases, malaria, fever of obscure origin, demography, rickettsioses and meningitis.

Modern laboratories constructed in Lahore, West Pakistan, opened for work in June, 1963. The foreign site provides facilities for a large clinical ward and the utilization of a unit health center serving a large native population. Dr. Merrill J. Snyder spent the Summer of 1962 directing the installation of the new laboratories. Dr. Eugene Gangarosa assumed the directorship of the field unit in June, 1962. Dr. Nur Ahmad, former Commandant of the Armed Forces Institute of Pathology, Rawalpindi, was appointed to the faculty. He will coordinate the Pakistan program and serve as the pathologist for the unit. The Department of Pediatrics is collaborating in the program. Dr. Herbert C. Barnett has joined the center as Chief Entomologist and Dr. Christian R. Klimt as Chief Epidemiologist.

CLINICAL STUDY CENTER

The Clinical Study Center opened for admission of patients in November, 1962. Patients with metabolic, nutritional, hematologic, infectious, developmental and other disorders are under study. Dr. Thomas B. Connor directs the program which is interdepartmental in scope. A small Advisory Committee assists in conduct of the program. Dr. Frank M. Ganis is Director of the Laboratories.

**PARTICIPATION IN PROGRAM OF COMMISSION ON
IMMUNIZATION OF THE ARMED FORCES
EPIDEMIOLOGICAL BOARD**

During the period extending from 1948 to 1962 departmental members conducted collaborative studies under the aegis of two contracts. The results of studies were reported in scientific publications. When the contract terminated a summary of scientific contributions was presented to the Commission with the following acknowledgement: "The research and training venture beginning in Malaya, Washington and Baltimore in 1948 has fulfilled the major objectives desired of the newly organized International Centers for Medical Research and Training such as: 1) training of American and foreign investigators; 2) promotion of research; and 3) promotion of good will. The University of Maryland is proud to have been associated with this fine program and acknowledges its great appreciation for the financial support it has received from the Armed Forces, and for the intellectual stimulation it has received through its years of association with the Commission on Immunization." This report also stressed that the success of the initial studies in Malaya and the subsequent investigations in the United States and in other overseas sites was directly attributable to the vision and unceasing attention given by Dr. Joseph E. Smael.

A list of the more important scientific contributions resulting from work under the contracts are:

- (a) First highly effective treatment for scrub typhus.
- (b) First and only generally accepted specific treatment for typhoid fever.
- (c) Development of effective chemoprophylactic regimens for prevention of clinical scrub typhus.
- (d) Demonstration of the therapeutic efficacy of broad spectrum antibiotics in murine typhus and Rocky Mountain spotted fever.
- (e) Demonstration that broad spectrum antibiotics are superior to previously available medicaments in treatment of pneumonic plague.
- (f) Studies of microbial persistence demonstrating recovery of *Rickettsia rickettsii* from recovered patients.

- (g) Extension of knowledge of ecology and epidemiology of scrub typhus and leptospirosis in Malaya and Puerto Rico. A study of the antibiotic treatment of leptospirosis in San Juan and demonstration of the high incidence of this disease among troops engaged in jungle operations in Malaya.
- (h) Evaluation and demonstration of the antitoxemic effects of steroids in patients with typhoid fever and rickettsial diseases.
- (i) Serologic survey in Iran and Afghanistan showing the endemicity of Q fever, poliomyelitis, and other virus diseases.
- (j) Simplification of the therapeutic regimen of meningitis showing that pneumococcal, meningococcal and influenzal meningitis may be treated successfully by using one antibiotic.
- (k) Extension of knowledge of the type and distribution of arbor virus infections in Southeast Asia.

PARTICIPATION IN PROGRAM OF THE COMMISSION ON EPIDEMIOLOGICAL SURVEY OF THE ARMED FORCES EPIDEMIOLOGICAL BOARD

Various departmental members participated in the program of this Commission. Doctor Woodward serves as Chairman and Doctor McCrumb as Associate Member. Doctors Greisman, Hornick and Snyder are actively engaged in conduct of research sponsored by the Commission. Such broad problems as tularemia vaccine studies, aerosol aging, methods of general laboratory diagnosis and detection of *Pasteurella tularensis*, studies of host response to infection, virologic studies of Venezuelan equine encephalitis, studies of staphylococcal enterotoxin, and studies of typhoid fever in experimental animals and man are undertaken by this Commission. A review of these activities appeared in "Military Medicine," volume 127, pp. 701-705, September, 1962.

DEPARTMENT OF MEDICINE FACULTY PERSONNEL NOTES

Dr. Charles Van Buskirk, Professor of Neurology and Head of the Division of Neurology since 1954, resigned his position on June 30, 1963, to join the Staff of the York Hospital as Chief Neurologist and to engage

in private practice. A testimonial dinner in his honor was held in The Center Club, One Charles Center, on Monday, June 3, 1963. Doctor Van Buskirk was presented a Maryland Chair with an inscription which expresses the attitude of the School and Department—"From his friends who recognize with pride his unusual talents in neurology and medicine. The School and Hospital acknowledge with gratitude his development of a neurological program, his maintenance of high teaching standards, his scholarly attainments, his integrity, and his conduct as a gentleman."

Dr. Henry J. L. Marriott, Associate Professor of Medicine and Head of the Division of Physical Diagnosis, resigned his position in March, 1962, to become Director of Medical Education and Research at the Tampa General Hospital. Doctor Marriott joined our faculty as Assistant in Medicine and for fifteen years made significant contributions to the teaching programs at the Mercy and University Hospitals. A testimonial dinner was held in his honor on February 12, 1962, at which time he was presented a Maryland Chair and cited as "A valuable member of the Department of Medicine particularly as an outstanding teacher for medical students. Doctor Marriott has conducted himself as a scholar and made notable contributions to the literature."

Dr. Edward F. Cotter, Associate Professor of Medicine, was appointed as Head of the Division of Physical Diagnosis on January 1, 1963, in addition to his current position as Head of Medicine at the Maryland General Hospital. Doctor Cotter brings his vast experience of clinical medicine and teaching to this important component of the curriculum. The course in Physical Diagnosis conducted by him in the spring session of 1963 was excellent and received enthusiastically by the sophomore class and participating faculty members. Doctor Cotter and his staff at the Maryland General Hospital are formulating a training program in Medicine which is aligned closely with the University.

Dr. John E. Legge, Assistant Professor of Medicine, Emeritus, died at age 87 on September 20, 1962, after a long illness. Always an able teacher and clinician, Doctor Legge contributed unstintingly to the training of young physicians in various Baltimore hospitals and for many years participated vigorously in the teaching program of the University of Maryland School of Medicine. Doctor Legge rendered comprehensive and sympathetic care to patients who were devoted to him.

Dr. Ephraim T. Lisansky was elected to fellowship in the American Psychiatric Association. In addition, he was appointed member of the

Advisory Council on Health and Mental Hygiene for the State Department of Health and Mental Hygiene.

During the year Dr. Woodward served as Director of the Commission on Epidemiological Survey of the Armed Forces Epidemiological Board; Chairman, Board of Scientific Counselors, National Institute of Allergy and Infectious Diseases; Member N.I.H. Cholera Advisory Committee; Member, Allergy and Infectious Diseases Training Grant Committee, N.I.A.I.D.; and Member, Committee on International Centers for Medical Research and Training, Public Health Service.

MEDICAL HOUSE STAFF

JULY 1962—JUNE 1963

CHIEF RESIDENT IN MEDICINE: Dr. Richard B. Hornick

SENIOR ASSISTANT RESIDENTS: Dr. Aristides Alevizatos
Dr. Lawrence F. Awalt, Jr.
Dr. Luis F. Capriles
(Resident in Neurology)
Dr. William J. R. Dunseath
(Resident in Dermatology)
Dr. Vincent J. Fiocco, Jr.
Dr. Samuel I. O'Mansky
Dr. L. Kemper Owens
Dr. Ramon F. Roig, Jr.
Dr. Philip K. Russell
Dr. Jerry Salan
Dr. Elijah Saunders
Dr. Gerald M. Waggoner

JUNIOR ASSISTANT RESIDENTS: Dr. Earl L. Baker
Dr. James J. Cerda
Dr. Gerald A. Hofkin
Dr. Michael B. A. Oldstone
Dr. Allan R. Ronald
Dr. David Tiersten, Jr.
Dr. Richard E. Ulmer
Dr. Nina C. Vann
Dr. Dennis K. Wentz

AFFILIATED RESIDENTS:

Maryland General Hospital: Dr. Leonardo Exconde
Dr. Edmund Kasaitis

Fort Howard V. A. Hospital Dr. Charles Rowen

STRAIGHT MEDICAL INTERNS: Dr. Donald M. Barrick
Dr. Frank A. Carozza, Jr.
Dr. Michael Friedman
Dr. Laurence R. Gallagher
Dr. Alan B. Lachman
Dr. David W. Morse
Dr. Michael M. Shefferman
Dr. Kenneth W. Tuttle

MIXED INTERNS: Dr. Joseph H. Gerdes
(6 months on the Medical Dr. Lois M. Kaufman
Service) Dr. Peter S. MacMurray
Dr. Phyllis Pullen

ROTATING INTERNS: Dr. Ernest J. Fortin
(3 months on the Medical Dr. A. Leo Franklin
Service) Dr. Bernard S. Karpers
Dr. Maurice F. P. Masar
Dr. Franklin W. Sassaman

FELLOWS IN MEDICINE: Dr. George Baumgardner
Division of Endocrinology & Metabolism
Dr. Bernard Bathon
Division of Cardiology
Dr. Dhundiraj Bhatavedekar
Division of Arthritis
Dr. Stuart Brager
Division of Radioisotopes
Dr. John T. Bulkeley
Division of Infectious Diseases
Dr. Rolf Ewald
Division of Arthritis
Dr. Braulio Idea
Division of Neurology

FELLOWS IN MEDICINE:
(cont'd)

Dr. Theodore Kowitz
Division of Pulmonary Diseases

Dr. Harris Lovice
Division of Endocrinology & Metabolism

Dr. Vincent McCarthy
Division of Infectious Diseases

Dr. Chris Papadopoulos
Division of Cardiology

Dr. Arthur Poffenbarger
Division of Neurology

Dr. Howard Rubenstein
Division of Cardiology

Dr. Edward Rusche
Division of Pulmonary Diseases

Dr. Arthur Serpick
Division of Hematology

Dr. Martha Stauffer
Division of Endocrinology & Metabolism

Dr. Manfred Strauch
*Division of Hypertension &
Renal Diseases*

Dr. M. Eugenio Tudino
Division of Dermatology

DIVISION OF ARTHRITIS

A. PERSONNEL

Adalbert F. Schubart, M.D.	Associate Professor of Medicine Head, Division of Arthritis
Dhundiraj Bhatavadekar, M.D.	Trainee and Fellow
Rolf W. Ewald, M.D.	Research Fellow
Albert Bradley, M.D.	Attending Physician
John Gessner, M.D.	Attending Physician
Leon Kochman, M.D.	Associate in Medicine, Director, Arthritis Clinic

Lucius Leeper, M.D.	Attending Physician
George Lentz, M.D.	Attending Physician
Ralph Weber, M.D.	Attending Physician
Mrs. Joan Dickerson	Secretary
Miss Elaine Winokour	Research Technician
Mrs. Emma Wilson	Laboratory Assistant
Jonathan D. Tuerk	Student Research Fellow

B. GRANTS-IN-AID 1962-63

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
U.S. Public Health Service	\$ 7,020.00	Special Training in Arthritis, PHS 2A-5059
U.S. Public Health Service	14,103.00	Serological Reactions in Rheumatoid Arthritis, PHS Research Grant AM-03173-04
Arthritis and Rheumatism Foundation, Maryland Chapter	\$12,000.00	Research Grant

C. PUBLICATIONS 1962-63

Schubart, A. F., Rothschild, H. J., Schroeder, W. C., and Ewald, R. W. Changes of serum complement levels in acute rheumatic fever. A longitudinal study. *Arthr. & Rheum.* 5 (6), p. 656, 1962.

Schubart, A. F., Rothschild, H. J., Schroeder, W. C., Ewald, R. W., and Tuerk, J. D. Effect of penicillin treatment on serum complement levels in acute rheumatic fever. *Ann. Rheum. Dis.* 22: 319-326, 1963.

Schubart, A. F., Cohen, A. S., Calkins, E. Latex fixation test in rheumatoid arthritis. III. A longitudinal study of the titer of rheumatoid factor and thermolabile inhibitor. *Arthr. and Rheum.* 7: 8-17, 1964.

Sharp, J. T., Calkins, E., Cohen, A. S., Schubart, A. F., and Calabro, J. J. Observations on the clinical, chemical, and serological manifestations of rheumatoid arthritis, based on the course of 154 cases. *Medicine.* 43: 41-58, 1964.

Schubart, A. F., Hornick, R. B., Ewald, R. W., Schroeder, W. C., Myerburg, R. J., Goodman, J. S., and Woodward, T. E. Changes of serum complement and properdin levels in experimental typhoid fever. A longitudinal study of the disease including the incubation period and the phase of recovery following treatment with chloramphenicol. *J. Immunol.* 93: 387-396, 1964.

D. RESEARCH PROGRAM

Research work of the Division was supported by the Research Grant PHS A-3173 with Dr. Schubart as principal investigator. Other funds were supplied by the Maryland Chapter of the Arthritis and Rheumatism Foundation.

The new research laboratory of the Division of Arthritis acquired in 1961 and located in room 105 of the Gray Laboratory Building was further developed. New research equipment was acquired to meet the needs of the expanding program.

The following research projects were carried out during the academic year 1962-63:

1. *Serological reactions in rheumatoid arthritis and other collagen diseases:*

a. *Longitudinal study of agglutination and inhibition reactions in rheumatoid arthritis.* This combined research project of the Division of Arthritis of the University of Maryland and the Arthritis Unit of the Massachusetts General Hospital, Harvard Medical School, Boston, was completed.

b. *The role of serum complement in the serological reactions of rheumatoid arthritis:* This longitudinal study with correlation of serum complement levels and rheumatoid factor of patients with rheumatoid arthritis continued as in previous years. Patients were seen in the Arthritis Clinic and on the ward services of University Hospital, Baltimore, and at Montebello State Hospital. Clinical activity of the disease was assessed following a special protocol. Serological studies were carried out at regular intervals.

c. *Serological study of patients with rheumatic fever:* This longitudinal study continued as in previous years. Patients with acute rheumatic fever admitted to the ward services of University Hospital were studied clinically throughout the course of hospitalization. Serum samples were drawn at regular intervals for the determination of serum complement and properdin. This longitudinal study for the correlation of serological and clinical data continues.

2. *Determination of serum complement levels and properdin in experimental typhoid fever.* This combined research project carried out with the Division of Infectious Diseases was concluded.

3. *Studies concerning capillary permeability in experimental animals.* The capillary permeability enhancing effects of homologous as well as heterologous serum constituents was studied using various techniques. The influence of serum complement in these experimental models was evaluated. This study continues.

DIVISION OF CARDIOLOGY

A. PERSONNEL

Leonard Scherlis, M.D. Head, Division of Cardiology, Associate
Professor of Medicine

William S. Love, M.D. Professor of Clinical Medicine

C. Edward Leach, M.D. Assistant Professor of Medicine, Chief,
Adult Cardiology Clinic

Sidney Scherlis, M.D. Assistant Professor of Medicine
Chief, Pediatric Cardiology Clinic

Kyle Y. Swisher, M.D. Assistant Professor of Medicine

Robert T. Singleton, M.D. Assistant Professor of Medicine
Co-Director, Cardiovascular Laboratory

Wilfred H. Townshend, M.D. Associate in Medicine

Luis F. Gonzalez, M.D. Instructor in Medicine

Yu-Chen Lee, M.D. Instructor in Medicine

Donald H. Dembo, M.D. Instructor in Medicine

Albert M. Antlitz, M.D. Instructor in Medicine

David Oursler, M.D. Instructor in Medicine

Chris Papadopoulos, M.D. Fellow in Cardiology

Bernard N. Bathon, M.D. Fellow in Cardiology

Howard J. Rubenstein, M.D. Fellow in Cardiology

B. GRANTS-IN-AID

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
National Heart Institute	\$25,000.00	Cardiovascular Training Grant
National Heart Institute	14,950.00	Studies on Tritium-Tagged Digoxin
Maryland Heart Association	6,600.00	Studies on Tritium-Tagged Digoxin
Maryland Heart Association	4,500.00	Research Fellowship in Cardiology
Maryland Heart Association	5,500.00	Research Fellowship in Cardiology
Maryland Heart Association	5,500.00	Research Fellowship in Cardiology

C. PUBLICATIONS

July 1, 1962 to June 30, 1963

Jude, James R., M.D., Scherlis, Leonard, M.D., and Farr, Mary E., R.N. Cardiopulmonary Resuscitation—A Manual for Instructors. The Heart Assoc. of Md., Revised January, 1963.

Papadopoulos, Chris, M.D., and Blazek, Charles, M.D. Ventricular Tachycardia of 70 Days Duration with Survival. Am. J. Cardiol. 11: 107-111, 1963.

Lee, Yu-Chen, M.D., and Hicken, William J., M.D. Anomalous Origin of the Left Coronary Artery Arising from the Pulmonary Artery in an Infant: Report of a Case. Bulletin of the School of Med., Univ. of Md. January, 1963.

Scherlis, Leonard, M.D., and Lee, Yu-Chen, M.D. Transient Right Bundle Branch Block. An Electrocardiographic and Vectorecardiographic Study. Am. J. Cardiol. 11: 173-186, 1963.

Scherlis, Leonard, M.D., Koenker, Rolf. J., M.D., and Lee, Yu-Chen, M.D. Pulmonary Stenosis: Electrocardiographic, Vectorecardiographic, and Catheterization Data. Circulation. 28: 288-305, 1963.

Scherlis, Leonard, M.D., and Lee, Yu-Chen, M.D. Recurrent Hypertension in a Patient with Chronic Aortoiliac Thrombosis and Renal Artery Obstruction Successfully Treated on Two Occasions by Partial Nephrectomy. Ann. Int. Med. 60: 117-124, 1964.

Dembo, Donald H., M.D. Editor of Heart Page. Cardiac Work Evaluation Unit. Md. State Med. J. 12: 294-295, 1963.

D. RESEARCH PROGRAM

The research program of the Division of Cardiology has included the following projects:

a. Evaluation of spatial vectorecardiography in heart disease.

This technique involves the recording of the electromotive forces of the heart by the display of the representation of the electrical activity on three planes. It has proved of value in the early detection of right ventricular hypertrophy, and its distinction from right bundle branch block. The diagnosis of myocardial infarction is also aided. Correlative studies are being carried out in this area.

b. Krypton-85 and dye dilution techniques in the diagnosis and evaluation of heart disease.

Over 150 patients have been studied utilizing radioactive Krypton. This is a more sensitive technique for the diagnosis of cardiac shunts. It has been of value in detecting small shunts and in localizing them more exactly.

c. Digitalis metabolism: Chromatographic and radioisotope studies employing Tritium-tagged digoxin.

Tissue distribution and blood levels have been determined for radioactive Digoxin. A more sensitive method of chromatography has been evolved and further studies are going on involving the metabolic aspects of digitalis in several parameters.

d. Clinical evaluation of drugs in angina pectoris.

In the Out-Patient Department area, patients with angina pectoris are being followed as a group. The therapeutic response to several preparations is being determined on a double blind basis. This has proved of value to the staff and students in demonstrating the difficulty in drug evaluation in this entity.

e. Myocardial metabolism.

The metabolism of the heart in cardiac failure and myocarditis is under study.

DIVISION OF DERMATOLOGY

A. PERSONNEL

Harry M. Robinson, Jr., M.D.	Professor of Dermatology, Head of the Division of Dermatology
Francis A. Ellis, M.D.	Professor of Clinical Dermatology Assistant Professor of Pathology
Raymond C. V. Robinson, M.D., M.Sc.	Associate Professor of Dermatology
Eugene S. Bereston, M.D., D.Sc.	Associate Professor of Dermatology
* Morris M. Cohen, M.D.	Assistant Professor of Dermatology
Mark B. Hollander, M.D.	Assistant Professor of Dermatology
Joan Raskin, M.D.	Assistant Professor of Dermatology
Albert Shapiro, M.D.	Assistant Professor of Dermatology
William R. Bundick, M.D.	Associate in Dermatology
Louis E. Harmon, M.D.	Associate in Dermatology
John F. Strahan, M.D.	Associate in Dermatology

Stanley N. Yaffe, M.D.	Associate in Dermatology
David Bacharach, M.D.	Instructor in Dermatology
William Dvorine, M.D.	Instructor in Dermatology
Daniel Roberts, M.D.	Instructor in Dermatology
M. Eugene Tudino, M.D.	Fellow in Dermatology
William R. Dunseath, M.D.	Resident in Dermatology
Carey Williams, RN	Chief Nurse in Dermatology OPD
Betty Schmick	Technician in Dermatology
Ann Cook	Technician in Dermatology
Theresa Grullon	Technician
Sylvia Ash	Secretary in Dermatology OPD

*Deceased in November 1962

B. GRANTS-IN-AID 1962-63

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
National Institutes of Health	\$10,765.00	Fluorescent Antibody Studies of Certain Dermatoses
Bressler Fund Grant	\$ 3,850.00	Tissue Culture Studies of Pityriasis Rosea

C. PUBLICATIONS

- a. Robinson, Harry, M., Jr., and Dunseath, Wm., J. R.: Micronized Griseofulvin, *Journal of Investigative Dermatology* 39-65: 1962.
- b. Robinson, Harry, M., Jr.; Robinson, R. C. V.; and Hollander, Mark B.: Sebaceous Secretion and Comedones (Quantity Study). *Bull. Univ. of Md. Sch. of Medicine* 47:31, 1962.
- c. Robinson, H. M., Jr., Harmon L. E., and Firminger, H. I.: Multiple Lipoidal Histocytoma. *A. M. A. Archives of Dermatology*.
- d. Robinson, H. M., Jr.; Raskin, Joan; and Dunseath, Wm. J. R.: Occlusive Dressing Therapy of Chronic Cutaneous Lesions. *So. Med. Assoc.*
- e. Robinson, H. M., Jr.: Patient Presentation Textbook of the Twelfth International Congress of Dermatology. Horn-Shafer Co., Baltimore, Md. 1962.

f. Raskin, Joan: Molluscum Contagiosum: Tissue Culture and Serologic Study. Archives of Dermatology 87:5, 552-559, 1963.

g. Robinson, R. C. V.: Treatment of Erysipelas. Current Therapy, 1962, W. B. Saunders Company, Philadelphia, pp. 436-437, 1962.

h. Robinson, R. C. V. and Roberts, D.: Occipital Nevus Flammeus, So. Med. Journ. 55: 1292-1296, 1962.

D. RESEARCH PROGRAM

1. Topical Steroid Therapy

New steroid compounds for topical use are continually being developed and presented to the dermatology staff for evaluation. A recently developed treatment technique utilizing occlusive dressings with saran wrap and other plastic materials is being used in conjunction with Fluorcinolone acetonide and Flurandrenolone acetonide. The value of this treatment in certain chronic dermatoses has been established. The mechanism by which these favorable results are accomplished is under investigation.

Of 500 patients who have been included in this study, the vast majority have benefitted by the treatment. The results obtained in the treatment of chronic lesions of psoriasis with surface depot-steroid therapy have been gratifying. The adverse reactions encountered were minimal. Microscopic examinations of biopsy specimens have shown no adverse reactions.

2. Studies on the Nosology of Granulomas

Since the term granuloma was developed by Virchow 100 years ago, its meaning has been broadened by arbitrary inclusion and exclusion of various entities so that in its present state it defies definition. This study is being conducted with a review of the pathology of various entities in an effort to clarify this dilemma.

3. Radiation Therapy Studies with Low Voltage Radiation

Studies are in progress to determine the value of low voltage radiation as an adjunctive measure in the treatment of some dermatoses. In a recent study a Hormel pig was used and valuable information gained. It is planned to continue this study using other animals and human volunteers.

The initial studies on the Hormel pig indicate that radiation therapy generated from 10 to 20 KV (half value layer of 0.019 to 0.120) given in doses of 500 to 10,000 R will affect the epidermis but has no permanent effect on the structures of the corium.

4. Collection of Histopathologic Slides and Photomicrographs

Dr. William J. R. Dunseath continues to compile a series of study sets of histopathologic sections for training of graduate students in dermal pathology and Dr. Louis E. Harmon had made an extensive series of photomicrographs of each of these specimens. He and Dr. Francis A. Ellis prepared a continuous exhibit of this material for the Twelfth International Congress of Dermatology.

5. A permanent display of the pathogenic fungi of North America has been prepared and established in the dermatology clinic. This exhibit contains clinical pictures, permanent cultures, culture mounts and geographic distribution maps for all of these pathogens.

This exhibit was presented at the Twelfth International Congress of Dermatology meeting in Washington, September 1962, at the Southern Medical Association meeting in 1962, the American Academy of Dermatology meeting in 1962 and at the American Medical Association meeting in June 1963.

6. Inositol Niacinate in the Management of Acne Vulgaris

This study was initiated to determine the validity of the report published in the International Record of Medicine. Each of 54 patients was treated with this material for a period of 3 to 6 weeks. No beneficial results were observed in any of them. It was concluded that the results previously published by two other investigators were invalid.

7. Lincomycin

A new antibiotic submitted for study by the Upjohn Company has been used in the treatment of superficial pyogenic infections. Preliminary results indicate that it is of value in the treatment of infections caused by gram positive organisms. It is of little or no value in the treatment of gonorrhea and is not effective in the treatment of acne vulgaris.

8. A double blind study was performed with a new topical steroid preparation submitted by the Ciba Co. (labeled 0.002% BA 27913). Results of the study indicated that this preparation had anti-inflammatory activity for treatment of eczematous eruptions but was not as effective as the commercially available flurandrenolone and fluocinolone acetonide preparations. This may be due to the very low concentration of the active ingredient.

9. A study is in progress to determine the value of erythromycin as an adjunct in the treatment of acne vulgaris. Previous studies indicated that

erythromycin and the broad spectrum antibiotics are of value in small doses in controlling the appearance of acne lesions.

10. Ceroid

During a recent study on a patient who had been observed continuously for 15 years, Dr. Harry M. Robinson, Jr. and Dr. Louis E. Harmon, in collaboration with Dr. Firminger, found the presence of ceroid in the xanthomatous lesions. This is the first time that the presence of this indigestible pigment has been reported in the dermatologic literature. Studies are in progress to determine the conditions in which this may be found and the possible role of this pigment in contributing to the control of the xanthomatous lesions.

DIVISION OF ENDOCRINOLOGY AND METABOLISM

July 1, 1962 to June 30, 1963

A. PERSONNEL

Thomas B. Connor, M.D., Associate Professor of Medicine, Director of Division and Director of Clinical Study Center, University Hospital.

John G. Wiswell, M.D., Associate Professor of Medicine.

Joseph B. Workman, M.D., Associate Professor of Medicine, Director of Radioisotope Laboratory.

Frank M. Ganis, Ph.D., Biochemist in Charge of Laboratories, Clinical Study Center.

Charles E. Shaw, M.D., Associate in Medicine, Chief of the Diabetic Clinic.

Leonard Lister, M.D., Associate in Medicine.

Harris Lovice, M.D., Fellow in Medicine (U.S.P.H.S. Trainee), July 1, 1962 to June 30, 1963.

George R. Baumgardner, M.D., Fellow in Medicine (U.S.P.H.S. Trainee), July 1, 1962 to June 30, 1963.

Stuart Brager, M.D., Fellow in Medicine, July 1, 1962 to June 30, 1963.

Edward Rogow, M.D., Fellow in Medicine (U.S.P.H.S. Trainee), January 1, 1963 to December 31, 1963.

Martha Stauffer, M.D., Fellow in Medicine (U.S.P.H.S. Trainee), July 1, 1962 to June 30, 1963.

Jerry Salan, M.D., Assistant Resident in Medicine, assigned to Endocrinology, January 1, 1963 to June 30, 1963.

Elijah Saunders, M.D., Assistant Resident in Medicine, assigned to Endocrinology, January 1, 1963 to March 31, 1963.

Kemper Owens, M.D., Assistant Resident in Medicine, assigned to Endocrinology, July 1, 1962 to December 31, 1962.

Robert Stoner, (Student) Fellow in Medicine, June 15, 1962 to September 15, 1962.

Lillian Darago, M.S., July 1, 1962 to December 31, 1962.

B. GRANTS-IN-AID

<i>Source of Support</i>	<i>Amount</i>	<i>Title of Project</i>
U.S. Public Health Service National Institute of Arthritis & Metabolic Diseases	\$ 51,014	Graduate Training Grant Diabetes and Metabolism.
U.S. Public Health Service National Heart Institute	51,304	Cooperative Study of Renovascular Hypertension.
U.S. Public Health Service	372,973	Clinical Investigation and Metabolic Research Ward.
U.S. Public Health Service National Institute of Arthritis and Metabolic Diseases	7,820	Mechanism of Action of Thyroid Hormone.
U. S. Public Health Service National Institute of Arthritis and Metabolic Diseases	13,262	The Relationship of the Thyroid to Epinephrine and Norepinephrine.

C. PUBLICATIONS

Baumgardner, G., Stauffer, M., Connor, T. B.: Bone matrix metabolism in parathyroid disease. *Clinical Research*, 11:214, 1963. (Abstract)

Baumgardner, G., Stauffer, M., Wright, J., Connor, T., Blizzard, R.: Urinary hydroxyproline as a measure of growth hormone activity in man. Program of the 45th meeting of the Endocrine Society, June 13-15, 1963. Atlantic City, New Jersey. Page 37. Abstract No. 76.

Darago, L. L., Costello, L. C.: Parathormone effect on alkaline phosphatase activity in vitro. (Abstract) Presented before the Scientific Section of the Amer. Pharmaceutical Association in Miami Beach. May 12-17, 1963.

Costello, L. C., Darago, L.L.: Parathormone effect on acid phosphatase activity in vitro. (Abstract) Presented before the Scientific Section of the Amer. Pharmaceutical Association in Miami Beach. May 12-17, 1963.

Connor, T. B., Lovice, H.: Observations on renal function before and after correction of hypercalcemia. *Trans. American Clinical and Climatological Association*, 74: 139-151, 1962.

Howard, J. E., Connor, T. B.: The use of differential renal function

studies in the diagnosis of renovascular hypertension. *American Journal of Surgery*, 107: 58-66, 1964.

Ganis, F. M.: A practical support for ascending and descending paper chromatography. *J. Chromatog.* 7, 570, 1962.

Ganis, F. M., Brayer, F., Kremer, W., Howland, J. W.: Modification of the Beckman Model DU Spectrophotometer for use as a semi-automatic paper chromatographic strip scanning and recording instrument. University of Rochester Report, UR-613, July 31, 1962.

Ganis, F. M., Stotz, E. H.: A practical approach to the teaching of paper chromatography to chemistry students. *Amer. Chem. Soc.*, 142nd meeting, September, 1962.

Ganis, F. M., Miller, L. L.: The metabolism of hydrocortisone in the isolated perfused dog kidney. University of Rochester Report, UR-620, January 3, 1963.

Clark, R. L., Ganis, F. M., Bradford, W. L.: A study of the possible relationship of progesterone to colic. *Pediatrics*, 31:65, 1963.

Ganis, F. M., Brown, T. D., Hansen, C. L., Jr., Howland, J. W.: A selective bibliography on the endocrine response to ionizing radiation. University of Rochester Report. In press.

D. RESEARCH PROGRAM

A. *Clinical Study Center*

The Department of Medicine was fortunate in obtaining a Clinical Research Center Grant from the National Institutes of Health for the support of a ten-bed ward with its own metabolic kitchen and supporting laboratories. This discrete research center is located on the third floor of the hospital and is available to all clinical departments but is under the administrative supervision of the Department of Medicine. (Principal Investigator: Dr. Theodore E. Woodward; Director of Center: Dr. Thomas B. Connor.) The Center has been under construction since November, 1961, and admitted its first patient in December, 1962. This extremely important area will afford invaluable opportunities for the faculty, graduate students, and staff to carry out carefully controlled investigations in the study of the basic mechanisms of disease processes in man. Thus far, the bed occupancy rate has averaged 50-60%. The Center facilities have been used by eleven different investigators who are carrying out a wide variety of studies in biochemical, metabolic, gastro-intestinal, and cardiovascular areas.

B. *The Relationship of the Thyroid to Epinephrine and Norepinephrine.*

(Dr. Wiswell) C¹⁴-epinephrine was administered to four euthyroid, five hyperthyroid and six hypothyroid subjects and the amount of radio-

activity was determined in urinary epinephrine and its chief metabolites—meta-nephrine and VMA. Urinary radioactivity excreted as epinephrine was less than 7% of the infused C^{14} ; urinary C^{14} -metanephrine varied from 19 to 38% of the infused C^{14} , and urinary C^{14} -VMA varied from 21 to 35% of the infused C^{14} -metanephrine and C^{14} -VMA in the urines of the hyperthyroid and hypothyroid patients as compared to the euthyroid subjects.

The current project is the intravenous administration of H^3 -epinephrine to euthyroid, hyperthyroid and hypothyroid patients and a determination of the half-time of disappearance of the material from the plasma. So far, there are no differences in the results in the three groups of patients, but the data are not yet conclusive.

Brief attempts have been initiated to study endocrine function under hypothermia in man. So far, there have been difficulties in induction and maintenance of the hypothermia, and no definite studies have been completed.

C. Studies on the Comparative Effects of Large and Small Doses of Insulin in Diabetic Acidosis. (Dr. Charles Shaw) This carefully controlled clinical study has been under investigation for three years under the supervision of Doctor Shaw. During this period seventy patients with diabetic acidosis have been studied for the first eight hours of therapy according to a standard protocol. Recovery from acidosis and coma was equally rapid whether "large" or "small" doses of insulin were used. Preliminary observations were recently published. This study has had the added salutary effect of stimulating renewed interest and enthusiasm among students and house officers in the study and management of diabetic acidosis.

D. An assessment of renal function before and after correction of hypercalcemia. (Drs. Lovice and Connor) Thirty patients with hypercalcemia of varying etiology have been subjected to careful evaluation of renal function before and after correction of hypercalcemia. Improvement in renal concentrating power was observed in most patients whereas creatinine clearance showed variable degrees of improvement following relief of hypercalcemia. Impairment of renal function correlated better with the presence of hypercalcemia than with the amount of calcium in the urine. (See publications.)

E. Studies in renal calculous disease. (Drs. Lovice and Connor) Patients with renal calculi have been subjected to intensive long-term study to assess the role of infection and oxalate and mineral excretion in relation to pathogenesis and prevention of renal calculi.

F. Investigation of hydroxyproline excretion in patients with disturbances of bone metabolism. (Drs. Baumgardner and Stauffer) This study has been under way for eighteen months. In preliminary observations elevated

hydroxyproline excretion in acromegaly, following growth hormone administration, hyperparathyroidism and polyostotic fibrous dysplasia have been found. Additional studies during the coming year are planned in patients with a wider variety of metabolic bone diseases. (See publications.)

G. *Psychological status of adult male patients with sexual infantilism before and after androgen therapy.* (Drs. Lovice and Connor) A joint study with the department of Psychiatry (Drs. Huffer and Scott) evaluating physiologic and psychologic changes in patients with gonadal failure. Study in progress for three years and now includes fifteen patients. Results will be published within the coming year.

H. *Continuation of a joint study on renal hypertension with the Division of Hypertension and Renal Diseases, and the Departments of Surgery, Radiology and Pathology.* (Dr. Connor) This study was initiated in the summer of 1961 as part of a Cooperative Study of Renovascular Hypertension under the sponsorship of the National Heart Institute. At each participating hospital, hypertensive patients are studied according to a designated protocol which includes i.v. pyelogram, radioisotope renogram, differential renal function tests and renal arteriography. The purpose of the study is to define better methods for the detection of renal vascular disease causing hypertension. The study within this Institution has been made possible only through the enthusiastic cooperation of the participating investigators: John Young and Paul Mendonca of the Division of Urology, Frank Borges and Joseph Workman of the Department of Medicine, Donald Wolfel of the Department of Radiology, and Colin Wood of the Department of Pathology. Thus far, over one hundred patients have been studied in this fashion.

RADIOISOTOPE LABORATORY

A. PERSONNEL

Joseph B. Workman, M.D.	Associate Professor of Medicine and Director, Radioisotope Laboratory.
Stuart H. Brager, M.D.	Fellow In Medicine
Evelyn M. Bass	Secretary
Emilie Larsen	Chief Radioisotope Technician
Dolores Velez	Radioisotope Technician
Sonja Rusche	Radioisotope Technician
Sharon Draper	Radioisotope Technician

(Resigned 1 June, 1963)

B. GRANTS-IN-AID 1962-63

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
U.S Public Health Service Div. Radiological Health	\$25,000.00	Study of Late Effects of I-131 Therapy of Thy- rotoxicosis.
E. R. Squibb & Sons	\$ 2,500.00	Squibb Fellowship Fund.
Bressler Fund	\$ 600.00	Study of Cerebral Circula- tion using Radioisotopes.
United Order of True Sisters, Inc.	\$ 250.00	Radioisotope Therapy of Indigent Cancer Patients.

C. PUBLICATIONS 1962-63

Workman, J. B.: The Management of Thyroid Cancer. I - The Place of Radioac-
tive Iodine (I-131). *Journal of Nuclear Medicine*, 4:183, 1963

Workman, J. B.: Clinical Use of Radioisotopes. *Bulletin of Nurses Alumni As-
sociation-U of M School of Nursing, Baltimore*. 40:35, 1962.

Workman, J. B., and Peterson, William: The effect of pregnancy on Thyroid
Cancer. A review of the literature and presentation of 21 cases. *Obstetrics and
Gynecology*. In press.

D. RESEARCH PROGRAM

The Radioisotope Laboratory is involved in a number of research pro-
jects throughout the Schools of Medicine, Dentistry and Pharmacy as
well as the University Hospital. In most instances, the research project is
a collaborative activity with another division or department within the
framework of the University's Baltimore Complex. However, it is through
the use of the facilities of the Radioisotope Laboratory that this particular
research project or portion of a project, is possible. The principal role
of the Radioisotope Laboratory in the research program of the School
of Medicine continues to be one of assisting others to obtain accurate,
worthwhile information through radioisotope technics. Within the Radio-
isotope Laboratory itself, certain projects of a research nature have been
underway during fiscal 1962-63. Included are:

A) *Study of the possible late effects of radio-iodine therapy in humans:*

Early in 1961, the Radioisotope Unit was selected by the Division of
Radiological Health of the Public Health Service as one of 12 units
throughout the United States and Great Britain to participate in a long
term study to evaluate possible late effects of radio-iodine therapy in

humans. Considerable valuable information is anticipated from this study as to the incidence of leukemia, hypothyroidism, and possible genetic effects upon offspring of radio-iodine treated patients. Members of the study have agreed to withhold publication of their findings individually until the entire study is complete, at which time, an overall analysis of the entire group will be released by the Division of Radiological Health. In this way, statistical variations in results will be corrected by the effect of large numbers.

B) *Study of renovascular hypertension* : The Radioisotope Laboratory, in cooperation with the Division of Urology, Department of Surgery, and the Department of Radiology, is involved in a long term cooperative study of the causes of renovascular hypertension. The study is sponsored by the National Heart Institute of the National Institutes of Health, and includes some fifteen teaching centers throughout the United States. Renal function evaluation through intravenous pyelography, arteriography, radioisotope renograms, and differential ureteral catheterization studies began on selected hypertensive patients under a rigid protocol in August, 1961. The Radioisotope Laboratory performs and interprets all the Radioisotope renograms, one of the essentials of the cooperative study.

C) *Study of cerebral blood flow* using radioactive isotopes, was started during 1962-63, in cooperation with the Division of Neurology of the Department of Medicine. To date, considerable interesting data has been obtained but must await analysis before any definite conclusions can be drawn.

D) Three separate research projects were started during 1962-63, in cooperation with the Department of Surgery.

1) The study of coronary artery circulation in dogs using radioisotope methods was begun with D. Emil Blair of the Division of Experimental Surgery. Much of the work done during 1962-63, was, by necessity, preliminary in nature. Significant experimental data from this study is anticipated during 1963-64.

2) A second research project involving the search for a method of evaluating liver blood flow and phagocytic activity using the external detection of previously injected colloidal heat denatured human serum albumin labeled with radio-iodine, began in cooperation with Dr. Robert M. Ollodart, of the Department of Surgery. Work has been limited to animals; however, the method appears so promising that human appraisal is anticipated.

3) Cooperation with the Division of Neurosurgery in the evaluation of two radioisotope methods for localization of brain tumors has been carried out during 1962-63. The use of radioactive Mercury-203 Neohydrin, as

F) A detailed research project involving close cooperation between the radioisotope service of the Fort Howard Veterans Administration Hospital and the Radioisotope Laboratory, was begun in May, 1963. The project is aimed at evaluation of a method of presentation, storing and evaluation of data obtained from scintillation scanning of various internal organs using paper tape recording and computer analysis. No significant data are available from this study at this time.

Howard F. Raskin, M.D.	Associate Professor of Medicine Head, Division of Gastroenterology
William C. Ebeling, III, M.D.	Assistant Professor of Medicine
Miss Sylvia Pleticka	Research Associate
Gerald M. Waggoner, M.D.	Fellow in Gastroenterology

D. RESEARCH PROGRAM

Research programs currently underway are as follows:

- a) Localization of occult gastrointestinal bleeding by long tube aspiration.
- b) The status of the pancreas and its role in various gastrointestinal diseases.
- c) Horizontal histologic sectioning of gastrointestinal mucosa.
- d) Study of small bowel bacteria flora.
- e) Electrophoresis of pancreatic enzymes.
- f) Biochemical analysis of pancreatic enzymes.

DIVISION OF HYPERTENSION-RENAL DISEASES

A. PERSONNEL

Samuel T. R. Revell, Jr., M.D. Head of Division, Professor of Medicine
Francis J. Borges, M.D. Director of Renal Laboratory, Assistant
Chief of Division, Assistant Professor of Medicine
George Entwisle, M.D. Professor and Chairman, Department of
Preventive Medicine and Rehabilitation, Assistant
Professor of Medicine
Manfred Strauch, M.D. Postdoctoral Trainee, U.S.P.H. Service
Charles Asplen Part-time Predoctoral Trainee
Stuart R. Elliott Laboratory Technician
Frank Hunt Laboratory Technician
Mrs. Velva Morse Secretary

B. GRANTS-IN-AID

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
U.S. Public Health Service	\$25,736.00	Training Grant in Hypertension-Renal Disease

C. PUBLICATIONS

Madeloff, M. S., Schwartz, F. D., Borges, F. J., Revell, S. T. R., Jr.:
Differential Excretion of Sodium and Water in Man Following Infusion of
Inulin and Para-Aminohippurate, Arch. Surgery 85: 994 (Dec.) 1962.

Attar, S., Borges, F. J., Cowley, R. A., Esmond, W. G., Hollingsworth, N., and Blair, E.: Use of Intravenous Mannitol in Postperfusion Oliguria and Anuria, *Circulation* 28: 699, 1963.

Borges, F. J.: Work Prescription and the Cardiac Patient, Report of Conference on Employment and Heart Disease, p. 43, 1963.

D. RESEARCH PROGRAM

- a. Continuation of clinical research in the pathogenesis of hypertensive and renal disease with particular attention to the recognition of correctible renal hypertension.
- b. National Cooperative Study of Renovascular Hypertension.
- c. Use of I.V. mannitol in prevention of postoperative oliguria.
- d. Use of I.V. mannitol in the treatment and prevention of acute oliguria-anuria.
- e. Treatment of barbiturate coma with mannitol diuresis.
- f. Natural history of lipiduria.

DIVISION OF INFECTIOUS DISEASES

A. PERSONNEL

Fred R. McCrumb, Jr., M.D. Associate Professor of Medicine
 Director, Division of Infectious Diseases

Merrill J. Snyder, Ph.D. Associate Professor of Medicine

Raymond K. Randall, D.V.M. Associate Professor of Medicine

Herbert C. Barnett, Ph.D. Associate Professor of Medicine
 Director, Division of Medical Entomology, ICMRT

Christian R. Klimt, M.D., Dr. P.H. Associate Professor of Medicine
 Director, Division of Epidemiology And Biostatistics, ICMRT

Richard B. Hornick, M.D. Assistant Professor of Medicine

Eugene J. Gangarosa, M.D. Assistant Professor of Medicine

Yasushi Togo, M.D. Instructor in Medicine

Elizabeth Heinz, B.S. Instructor in Medicine

John T. Bulkeley, M.D. Fellow in Medicine

Mohammed A. Aziz, M.D. Research Associate, ICMRT

Fernando de la Macorra, M.D. Research Associate, ICMRT

Michael B. Gregg, M.D. Research Associate, ICMRT

Vincent McCarthy, M.S. Research Associate, ICMRT

William A. McDonald, M.S. Research Associate, ICMRT

Curtis L. Meinert, Ph.D. Research Associate, Division of
Epidemiology-ICMRT
James Messer, Ph.D. Research Associate, ICMRT
Barbara A. Underwood, Ph.D. Research Associate, ICMRT

B. GRANTS-IN-AID 1962-63

<i>Title</i>	<i>Amount</i>	<i>Source</i>
U.S. Public Health Service, Division of General Medical Sciences	\$387,602	International Center for Medical Research and Training
Armed Forces Epidemiological Board, Commission on Epidemiological Survey	\$237,714	Studies on Rift Valley Fever, Related Viruses And Tularemia
U.S. Public Health Service, National Institute of Allergy and Infectious Diseases	\$ 44,433	Measles Prophylaxis with Tissue Culture Vaccines
Parke, Davis and Company	\$ 16,000	Unrestricted Grant
E. I. du Pont de Nemours and Company	\$ 20,000	Unrestricted Grant
Total Research Grant Support	\$705,749	

C. PUBLICATIONS 1962-63

1. Wagner H. N., Jr., Iio, M., and Hornick, R. B.: Studies of the Reticuloendothelial System (RES). II. Changes in the phagocytic capacity of the RES in patients with certain infections. J. Clin. Invest. 42:427-434, 1963.
2. Greisman, S. E., Hornick, R. B., Carozza, F. A., Jr., and Woodward, T. E.: The role of endotoxin during typhoid fever and tularemia in man. J. Clin. Invest. 42:1064-1075, 1963.
3. McCrumb, F. R., Jr.: Plague. The Cecil-Loeb Textbook of Medicine, edited by Beeson and McDermott, 11th Edition, 1963, W. B. Saunders, Philadelphia, pp. 256-259.

D. RESEARCH PROGRAM

Research into major health problems of Pakistan, pathogenic mechanisms in certain bacterial and viral diseases, evaluation of immuno-prophy-

lactics in tularemia, typhoid fever, and measles and the ecology of of arthropod-borne diseases constitutes the major effort of the Division of Infectious Diseases and the International Center for Medical Research and Training.

Studies with Live, Attenuated Measles Virus Vaccines: Large scale field trials designed to further assess the efficacy and safety of live, attenuated measles virus vaccines have been carried out under supervision of the Division of Infectious Diseases. Community-wide studies in Virginia, Wisconsin, Missouri, and Maryland have resulted in the successful immunization of over 20,000 children.

Detailed analysis of these studies have confirmed earlier observations that globulin-modified measles vaccine propagated in canine renal cells results in very low reaction rates and seroconversion in well over 95% of vaccinees. Durable immunity to naturally-occurring measles has been demonstrated for as long as three years following primary immunizations.

Studies on Induced Typhoid Fever in Volunteers and Evaluation of Typhoid Vaccines: Recent large-scale field trials of currently available typhoid vaccines carried out in Yugoslavia and British Guiana represent the first controlled evaluation of these immunoprophylactics. Results of these field trials were divergent, each indicating the superiority of a different vaccine in the prevention of naturally-occurring typhoid fever.

The Division of Infectious Diseases initiated studies of induced typhoid fever in volunteers at the Maryland House of Correction four years ago in an effort to establish a reproducible experimental model which would permit evaluation of vaccines. The fifty per cent infectious dose of one strain of *Salmonella typhosa* was found to approximate one million viable bacteria.

Challenge of volunteers receiving alcoholized and heat-killed whole vaccines and Vi antigen failed to demonstrate a significant degree of protection following vaccination when more than 10 infectious doses of *S. typhosa* were employed. Further definition of vaccine efficacy and immune mechanisms is in progress.

International Center for Medical Research and Training: International Centers were established through support of the U.S. Public Health Service for the purpose of stimulating interest in international health research among young biomedical scientists. Research Associates who receive training in health research in Baltimore and the overseas center in Lahore, West Pakistan participate in a broad spectrum of investigative programs.

The unique opportunities to study new control methods for malaria in the highly endemic area of West Pakistan prompted the initiation of a multifaceted malaria research program. It is proposed that this program in-

clude field evaluation of the dihydrothiazine metabolite of chlorguanide (CI-502, Parke, Davis and Company) and the fumigant insecticide DDVP. In addition, emphasis will be placed on the study of immune mechanisms in malaria and the occurrence of drug-resistant strains of human plasmodia.

During the past year, a broad research program on the rickettsial diseases of Pakistan has been initiated under the direction of Dr. C. L. Wisseman, Jr., Professor and Head, Department of Microbiology. The long-term objectives of the study include an investigation of the kinds and distribution, various ecologies and importance among human populations of the rickettsioses of West Pakistan. The initial effort has been an ecologic study of scrub typhus.

Results of this investigation to date indicate that small mammals which may serve as vertebrate hosts are abundant and widely distributed in West Pakistan. *Rickettsia tsutsugamushi* has been isolated from human beings, rodents and ectoparasites confirming the importance of this area as a reservoir of infection.

Studies on the bionomics of mosquitoes as related to arthropod-borne viruses and malaria were undertaken in the Lahore area in 1962. During the course of this project, it has been demonstrated that the risk of exposure of human populations to vector mosquitoes is much greater in rural than in urban areas. Although *Anopheles* mosquitoes in general are uncommon in the urban area thereby reducing the likelihood of acquiring malaria in Lahore, *Aedes* (Stegomyia) species are common suggesting the possibility that dengue viruses may be present. Rural collections revealed the prevalence of *Culex tritaeniorhynchus* and *Anopheles culicifacies* vectors of West Nile virus and malaria respectively.

Antibody studies among inhabitants of the Lahore area have revealed the presence of Group B arthropod-borne viruses, sandfly fever, Q fever, and other rickettsioses and brucellosis. The high prevalence of enteroviral antibodies is in keeping with reports from similar environments in other newly developing nations.

DIVISION FOR PULMONARY DISEASES

1962-1963

A. PERSONNEL

William S. Spicer, Jr., M.D.	Associate Professor of Medicine and Head of Division
Patrick B. Storey, M.D.	Associate Professor of Medicine

William K. C. Morgan, M.D.	Assistant Professor of Medicine
David Marine, M.D.	Assistant Professor of Medicine
Jean Hawkins, Ph.D.	Assistant Professor of Medicine
Robert C. Duvall, M.D.	Instructor in Medicine
Manuel Levin, M.D.	Instructor in Medicine
Richard W. Blide, M.D.	Instructor in Medicine
H. David Kerr, M.D.	Instructor in Medicine
Edward Ruley	Student Fellow
Larry Becker	Student Fellow
Grey Bennett	Research Technician
Hilda Dugan, R.N.	Research Technician
Amalie Kriss	Research Technician
Shirley Mastan, R.N.	Research Technician
Barbara Ruley, R.N.	Research Technician
Barbara Herbert	Secretary
Shirley Heath	Secretary
Carol Alpert	Clinic Secretary

B. GRANTS-IN-AID

1. Research Career Award for Dr. W. S. Spicer, Jr., National Heart Institute, July 1, 1962–June 30, 1963, \$21,943.00.
2. Environmental Factors and Chronic Bronchitis, U.S.P.H.S.—AP 00045-03, \$78,690.00.
3. Chlorine Contract, U.S.P.H.S., September 15, 1962 to September 14, 1963, \$19,750.00.
4. Washington County Tuberculosis Association, \$10,000.00.
5. Medical Education Grant, Maryland Tuberculosis Association, \$11,500.00.

C. PUBLICATIONS

Spicer, W. S., Jr., Johnson, R. L., Jr., and Forster, R. E. Diffusing Capacity and Blood Flow in Different Regions of the Lung. *J. Appl. Physiol.*, 17:4, 1962.

Spicer, W. S., Jr., Storey, P. B., Morgan, W. K. C., Kerr, H. D., and Standiford, Natalie E. Variation in Respiratory Function in Selected Patients and its Relation to Air Pollution. *Am. Rev. Resp. Dis.*, 86:705, 1962.

Spicer, W. S., Jr. The Complexity of the Relationship Between Air Pollution and Respiratory Health. *Proceedings of the 2nd National Conference on Air Pollution*, December, 1962.

Storey, P. B. and Goldstein, W. Pulmonary Embolism from Primary Hepatic Carcinoma. Arch. Int. Med., 110:262, 1962.

Morgan, W. K. C. Arc Welders' Lung Complicated by Conglomeration. Amer. Rev. Resp. Dis. 85:570, 1962.

Morgan, W. K. C. The Intravenous Congo Red Test in Rheumatoid Arthritis. Acta. Rheum. Scand. 8:119, 1962.

D. RESEARCH PROGRAM

The research program of the Division for Pulmonary Diseases is designed to develop and perfect precise measurement techniques for the study of the etiology, progress, therapy and prevention of respiratory disease in a large population ($\pm 50,000$). The following human health studies are in various stages of progress.

- I. Determination and Quantitation of Pulmonary Disability.
- II. Determination of Intradaily Variation in Respiratory Function.
- III. Study of Seasonal Variation in Respiratory Function in Relation to Environmental Factors.
- IV. Study of the Respiratory Health of School Children.
- V. Research Aerometric Sampling Techniques.
- VI. Climatology in Relation to Respiratory Health.
- VII. Computer Usage in Data Processing and Physiologic Measurements.

DIVISION OF NEUROLOGY

A. PERSONNEL

Charles Van Buskirk, M.D. Professor of Neurology, Head of Division
Jerome K. Merlis, M.D. Professor of Neurology
George G. Merrill, M.D. Assistant Professor of Neurology
Philip F. Lerner, M.D. Assistant Professor of Neurology
Harry A. Teitelbaum, M.D. Assistant Professor of Neurology
Edward F. Cotter, M.D. Associate in Neurology
Barbara Hulfish, M.D. Instructor in Neurology

Morton D. Kramer, M.D.	Instructor in Neurology
Robert S. Mosser, M.D.	Instructor in Neurology
Albert F. Heck, M.D.	Instructor in Neurology
A. Harry Oleynick, M.D.	Instructor in Neurology
Arthur L. Poffenbarger, M.D.	Fellow in Neurology
Luis F. Capriles, M.D.	Assistant Resident in Medicine
Braulio V. Idea, M.D.	Fellow in Neurology
Myron L. Wolbarsht, Ph.D.	Research Consultant
Karl Stecher, Jr.	Research Fellow
Perry Caminis	Research Fellow
Miss Elizabeth Palmer	Secretary
Mrs. Joanne Quinn Ditto	Secretary, Outpatient

B. GRANTS-IN-AID

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
U. S. Public Health Service	\$45,694	Neurology Training Grant
U. S. Public Health Service	9,476	<i>Research Grant:</i> Circulatory changes in cord compression.
U. S. Public Health Service (General Research Funds)	900	<i>Research Grant:</i> An evaluation of iron in the genesis of cerebral edema.
Bressler Research Fund	600	Factors affecting cerebral circulation time.
Bressler Research Fund	300	The relation of systemic iron deficiency and intracranial pressure.
National Multiple Sclerosis Society, Maryland Chapter	6,700	Multiple Sclerosis Research.

C. PUBLICATIONS 1962-1963

Van Buskirk, C.: Changing Treatment of Stroke Patients. Maryland State Med. J. 12:487-493, 1963.

Merlis, J. K.: See Division of Clinical Neurophysiology.

Teitelbaum, H. A.: Psychosomatic Aspects of Nervous System Disease. Psychosomatics, Vol. 3, No. 6, Nov.-Dec., 1962.

Kramer, M. D.: Biberiden in the Treatment of Phenothiazine-induced Extrapyramidal Reaction, J.A.M.A. 182:1127, December 1962.

Heck, A. F.: William Alexander Hammond 1828–1900, J.A.M.A. 183:170, 1963.

Heck, A. F.: Heart Disease in Friedreich's Ataxia. Part I: Clinical studies and review of the literature, Neurology 13:587, 1963.

Heck, A. F.: Heart Disease in Friedreich's Ataxia: Part II: Investigation of cardiac disease in a large family with Friedreich's Ataxia, Neurology 13:596, 1963.

Heck, A. F.: Presumptive X-Linked intermediate transmission of retinal degenerations, Arch. Ophth. 70:143-149, 1963.

Idea, B. V.: Clinical appraisal of Pentapiperide methyl sulfate—a new anticholinergic drug, Am. J. Gastroenterology 52-60, Jan. 1963.

Capriles, L. F.: Intracranial hypertension and iron deficiency anemia, Arch. of Neurol. 9:147-153, 1963.

D. RESEARCH PROGRAM

C. Van Buskirk: 1. A study of spinal cord circulation and the factors which influence it has been in progress for several years and is continuing. Present interest is on the effect of compression on circulation and function of the spinal cord.

J. K. Merlis: See Division of Clinical Neurophysiology.

E. F. Cotter: Clinical course and therapy in multiple sclerosis, continued.

B. Hulfish: Work continues on study of clinical-pathologic correlation with intracranial aneurysms.

R. S. Mosser: Relation of systemic iron deficiency and cerebral edema.

A. F. Heck: 1. Sixty-five studies have been done on the "Factors determining cerebral blood flow" project under the Bressler Fund grant during the past year. This data is being evaluated at present.

2. Continuing clinical investigation, in collaboration with Dr. Thomas Connor, of myopathic syndromes associated with hypercalcemia, hyperthyroidism and malignancy.

A. L. Poffenbarger: Clinical course and treatment in multiple sclerosis, continued.

L. F. Capriles: Relation of systemic iron deficiency and intracranial pressure, continued.

B. V. Idea: 1. Nervous system sarcoidosis.

2. Pott's disease—Neurologic aspects.

DIVISION OF CLINICAL NEUROPHYSIOLOGY

A. PERSONNEL

Jerome K. Merlis, M.D. Prof. Neurology and Clinical Neurophysiology
 Head, EEG Lab
 Morton D. Kramer, M.D. Instructor, Neurology
 Assistant Electroencephalographer
 Ruth W. Baldwin, M.D. Assistant Professor Pediatrics
 Assistant Electroencephalographer
 Miss J. A. Grey Laboratory Technician
 Mrs. M. Robertson Laboratory Technician
 Miss T. Breslin Laboratory Technician
 Miss R. Gerber Medical Stenographer
 Miss V. Deakins Senior Stenographer
 Mr. C. Chatzky Research Technician

B. GRANTS-IN-AID 1962-1963

<i>Donor</i>	<i>Amount</i>	<i>Title</i>
U. S. Public Health Service	\$4,025	Cardiovascular Mechanisms in Minor Seizures.
U. S. Public Health Service	8,165	Mechanisms of the Epileptic Seizure.

C. PUBLICATIONS 1962-1963

Merlis, J. K.: Epilepsy, Progress in Neurology and Psychiatry, E. A. Spiegel, Ed., Vol. XVII, 172-185, 1962.

Merlis, J. K.: Abnormal excitatory activity: Epilepsy, Neural Physiopathology, R. G. Grenell, Ed., New York, Harper & Rowe, 65-94, 1962.

Greenbaum, L. J. and Merlis, J. K.: A study of excitability cycles in the cat cerebral cortex, The Physiologist, 6:191, 1963.

Esmond, W. G.; Attar, S.; Merlis, J. K.; Scott, W. H.; Richards, R. R. and Cowley, R. A.: Metabolic, hematologic and neuropsychologic studies on patients undergoing open heart surgery with profound hypothermia. Trans. Int. Cong. Physiol. Sci., 1962.

D. RESEARCH PROGRAM 1962-1963

The major research activity is a continuing series of studies of the basic mechanisms of the electrical activity of the brain and the mechanism of the epileptic discharge being carried out under a 5-year NIH Research Grant.

GENERAL MEDICAL CLINIC

A. PERSONNEL

Adalbert F. Schubart, M.D.....	Associate Professor of Medicine Head, General Medical Clinic
William K. Morgan, M.D.....	Assistant Professor of Medicine Assoc. Head, General Medical Clinic
Joseph C. Furnari, M.D.....	Associate in Medicine Assistant Head, General Med. Clinic
Mrs. Alberta Wagner, R.N.....	Head Nurse
Mrs. Frances Blessing, R.N.....	Registered Nurse
Mrs. Dorothy Rossi, P.N.....	Practical Nurse
Mrs. Duretha Young.....	Nurse's Aide
Mrs. Joan Dickerson.....	Secretary
Mrs. Bettie Fox.....	Clerk

Attending Physicians

Conrad Acton, M.D.....	Associate in Medicine
Bernard Bathon, M.D.....	Fellow in Medicine
George Baumgardner, M.D.....	Fellow in Medicine
Louis Blum, M.D.....	Associate in Medicine
Stuart Brager, M.D.....	Fellow in Medicine
Paul Byerly, M.D.....	Associate in Medicine
Jonas Cohen, M.D.....	Associate in Medicine
William Cox, M.D.....	Associate in Medicine
Marvin Davis, M.D.....	Assistant in Medicine
John DeHoff, M.D.....	Associate in Medicine
William Esmond, M.D.....	Associate in Medicine
Irving Freeman, M.D.....	Assistant Professor of Medicine
Marvin Goldstein, M.D.....	Instructor in Medicine
Lewis Gundry, M.D.....	Associate Professor of Medicine
Samuel Hankin, M.D.....	Instructor in Medicine
William Helfrich, M.D.....	Associate in Medicine
Walter Karfgin, M.D.....	Associate in Medicine

Morton Krieger, M.D.....	Assistant in Medicine
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Leonard Lister, M.D.....	Instructor in Medicine
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Stephen VanLill, M.D.....	Associate in Medicine
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B. GRANTS-IN-AID: None

C. PUBLICATIONS 1962-1963

Freeman, I. Anticoagulants and atrial fibrillation. J.A.M.A. (In Press).

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Snyder, J. N. Family outbreak of cat scratch disease. J.A.M.A. 180: 780-781, 1962.



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**HARRY M.
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*Professor of
Dermatology and
Head, Division of
Dermatology*



Dr. Frank A. Carozza
Medicine - Infectious Diseases



Dr. Glenn Lubash (right)
*Nephrology
with Dr. George Yeager*

DEPARTMENT OF MEDICINE

ANNUAL REPORT

1975

This report is reprinted from the November 1975 Bulletin.

OPERATING PLAN AND IDEOLOGY OF THE DEPARTMENT

Teaching the broad and specific principles of Internal Medicine to students and house staff, rendering thorough patient care, and conducting clinical and applied basic research are the department's paramount objectives. These cannot be accomplished unless patients are studied thoroughly utilizing modern medical techniques only when indicated and conducted within an environment of scholarship and sound investigative objectives. In General Medicine, we aim to train a competent and undifferentiated physician who can serve as the patient's primary doctor. His training embraces experience and ultimate capability in rendering comprehensive and continuing care. Later in this report the department's contribution to a program of training in General Medicine is given.

Each subspecialty group is expected to practice the general principles of Medicine and perform specialized techniques and research in keeping with current practices.

Attending physicians are urged to stress practical aspects of diagnosis and to utilize definitive techniques which are often performed or supervised by consultative subspecialty teams. Emphasis is placed upon bedside care and teaching with stress upon proper protection of the dignity and rights of the patient.

EDUCATION

A. Preceptor Course in Introductory Medicine (Physical Diagnosis)

The current clinical course of instruction for the sophomore course in Introductory Medicine, initially called Physical Diagnosis, began as a pilot tutorial study in September, 1959, and expanded to accommodate larger numbers of students in 1960, 61 and 62. Initially, to determine whether the program would benefit students, four candidates were assigned to the departmental chairman and four to Dr. George Entwisle, for an entire year. During 1961-63, additional preceptor groups were tutored by Doctors Greisman, Storey and Koons.

The weekly sessions, conducted throughout the entire academic year, stressed elaboration of the

medical history, performance of a thorough physical examination, and the practical application of the basic sciences with particular emphasis upon mechanisms of disease. Initially, the students who chose this elective studied an Introductory Medicine text during the prior summer, and, at the beginning of the academic year, patient-oriented conferences were held weekly. After several initial sessions, which stressed normal findings through examination within the group, each student was assigned a patient weekly and expected to take a complete history and to perform a thorough physical examination. The group of four students and preceptor met regularly for comprehensive discussions which included elaboration of the pertinent aspects of the medical history and physical findings, and a discussion of the organ system involved, including the pathophysiology which related to the signs and symptoms. After several months, extemporary presentations were expected including discussions of special library assignments. Interpretation of the historical features and physical findings were stressed which included laryngoscopic and sigmoidoscopic examination. Each student who elected this special tutorial course was expected to successfully perform his regular sophomore course work.

The Pilot Study was highly successful and well accepted by students and preceptors in spite of the time required by the individual faculty member. Each student felt that his general knowledge of medicine and of the basic sciences was broadened. An important ancillary feature of the program is the opportunity for the preceptor to assume the role as Faculty Counselor for the student.

Many student preceptees looked upon this special opportunity as a stimulus to pursue clinical research studies during summer sessions and free time which served them well during their career development. The primary objective of the program was to develop academic curiosity, accelerate relevant medical knowledge, and inculcate sound principles of scholarship and dedicated medical competence.

In the mid 1960's, the curriculum was changed to allow teaching of Introductory Medicine throughout the entire sophomore year. Preceptor-preceptee groups were formed with an instructor for four students. Faculty members, senior house officers, and fellows serve as

faculty-preceptors. Until 1975, other time, within the framework of the course, was allotted to other clinical disciplines which included pediatrics, neurology, ophthalmology, ear, nose and throat, preventive and rehabilitation medicine. The Department of Medicine served as conductor of the course which included whole class lectures and student-faculty small group sessions one-half day weekly. Beginning in the academic session of 1975, the Department of Medicine has been allotted the time to instruct one-half of the sophomore class each on Thursday and Friday afternoons.

The format of student-faculty small group teaching sessions and selected lectures and demonstrations initiated in 1959 will serve as the basis for this important course.

When Dr. Edward Cotter retired from his position as director of this course he was succeeded by Dr. Frank A. Carozza, Jr. He directed a very effective program until his untimely death in 1970.

B. Clinical Clerkship in General Medicine

1. Junior Clerkship

The goals during the junior clinical clerkship are to guide the student in elaboration of a complete medical history and performance of a thorough physical examination through his work under guidance with patients in the hospital. Contact with patients is direct through his participation as a member of the medical team which includes a senior attending physician, medical resident, medical intern, and senior student. The clerk assists in the complete clinical study of patients when he is taught to separate complex problems into individual components, how to elucidate the pathophysiologic considerations, how to organize the specific and interrelated problems for solution, and how to comprehensively follow the patient as problems are resolved.

Within the activity of the teaching medical unit, the clinical clerk assumes responsibility for the care of the patient in a manner which simulates actual medical practice. Activities consist of dedicated and sustained work with intimate involvement in clinical analysis of the patient's problem. This provides numerous opportunities for educational growth and personal satisfaction. With sustained experience as a team member, the clinical clerk adapts to the system and gradually gains confidence with increased efficiency in performance.

Training focuses upon the patient with each clinical clerk assigned two to three new patients weekly and gives opportunity for him to care for and follow not more than four patients simultaneously.

The clinical clerk collects the data base of medi-

cal history, physical findings, and laboratory values for each of his assigned patients. He is assisted in this important endeavor by the senior student and medical intern. The clinical clerk is expected, after proper indoctrination and experience, to perform the initial examination and collection of data, particularly in patients with non-emergent medical problems.

Each day at specified times, the medical house staff reviews the data base for its thoroughness and accuracy when the medical team as such formulates its full problem list and initial plan of study and management. The faculty, attending physician is responsible for supervising the study, diagnosis, and management of patients assigned to his service and monitors the clinical evaluation and therapy of each patient. He is expected to teach the best current principles of medicine within the context of the patient's problem.

Educational growth of the clinical clerk takes place within the framework of the daily system through participation in the specialized analysis of diagnostic procedures under sponsorship of the medical house staff and specialty consultants, and in his observation of medical activities throughout the service. The clerk, under supervision, prepares progress notes as often as appropriate. This work is checked for accuracy and thoroughness.

Participation by the clinical clerk in seminars, specialty conferences, and medical grand rounds are ancillary exercises designed to assist in scholarly growth and practical application of fundamental knowledge. The clinical clerkship extends over nine weeks which could be profitably extended to a full twelve weeks.

Evaluation is based upon daily clinical performance of the basic clinical skills (collection of data base), demonstration of understanding mechanisms of illness, and ability to solve simple and complicated problems. Such traits as attitude, application to work, personal relationships with patients and others are constantly under scrutiny by the medical resident and attending physician. Comprehensive conferences are held by attending physicians with small groups of clinical clerks at the end of each tour. These are designed as teaching sessions which test broad general knowledge in medicine and permit evaluation of a student's ability to analyze data and to communicate his views. A written examination is given to test breadth of comprehensive knowledge rather than competence in specific details.

2. Senior Clerkship

Senior medical students are assigned to the medical teaching units on the third floor and private service. A majority of the class elect general

medicine as a part of their curricular program with an average experience of eight weeks. They work within the framework of the medical unit, as described under the junior clerkship. They function as student interns. Their responsibilities simulate those of the medical intern with whom they work in collaboration. These include individual work-ups on patients, performance of accepted clinical diagnostic procedures under supervision and design of management. Each student is evaluated in relation to individual performance. There is no final oral conference or written examination; students are encouraged to take the National Board Examination, which is not a school requirement.

C. Medical Residency Training Program

The medical service includes the teaching hospital service (90 beds), the private medical service (90-110 beds), the Baltimore Veterans Administration Hospital (160 beds), and the ambulatory outpatient clinics, including the emergency room and the primary care clinics.

I. The Teaching Service

A. Third Medical Floor

The teaching service is supervised by the Head of the Department of Medicine who serves during most of the year as Chief of Staff. During part of the year, this function is performed by a senior member of the department. The Head of Medicine at the Veterans Administration Hospital serves in a like manner.

The Chief of Staff is directly responsible for the teaching service and the care of patients on that service. He conducts a consultative round weekly and participates in the weekly Medical Grand Rounds.

Administratively, attending physicians are immediately below the Chief of Staff. Attending physicians are assigned to each service on a nine week rotation, conduct teaching rounds on the service at least three times weekly and participate in Grand Rounds. They are responsible for the care of patients, the teaching of house officers and students and actively participate in the departmental conferences.

Each service at present is staffed by an Assistant Resident, an intern, a senior student, and a group of four or five junior medical students.

The Directors of specialty divisions of the Department of Medicine act as consultants in their special fields and conduct weekly conferences. The specialty divisions are cardiology, dermatology, endocrinology, gastroenterology, hematology,

infectious diseases, nuclear medicine, nephrology, pulmonary diseases and rheumatology.

B. The Private Service

The private service is composed of the private patients of those members of the Department of Medicine who have privileges to admit patients to the University of Maryland Hospital. The service is divided into teaching units which function similarly to the third medical floor. A full-time member of the faculty serves as Chief of the Private Service, who is responsible for directing the teaching program and integrates the activities of the private service with the departmental activities. Interns and assistant residents are expected to attend Grand Rounds, special seminars and conferences.

C. Other Schools

During 1974-75, the Department of Medicine assumed the responsibility for teaching the principles of general medicine to students of the School of Dentistry and School of Pharmacy. Various members of the Department of Medicine presented course work in the Principles and Application of Medicine and gave instructions in the technique of physical diagnosis.

D. Postgraduate Programs

Members of the Department of Medicine and its various subspecialty divisions sponsor and participate actively in postgraduate programs of the School of Medicine and Hospital. Rather than designate the special courses conducted during the year 1974-75, this issue will indicate those events programmed from September, 1975, through the *Bicentennial Celebration Year of 1976*.

1. *Tuesday Noon Conferences in Various Medical Disciplines and Applied Basic Science for the Year 1975-76 by Prominent Alumni and Former Members of the House Staff and Faculty. Tuesday, 11:30 a.m., Gordon Wilson Hall until December, 1975; Davidge Hall through 1976.*

September 23, 1975

Herbert L. DuPont, M.D., Professor and Director, Program in Infectious Diseases and Clinical Microbiology, The University of Texas, Houston
"Etiology and Management of Acute Diarrhea"

Jonas A. Shulman, M.D., Professor of Medicine and Head, Division of Infectious Diseases, Emory University School of Medicine, Atlanta
"Serious Candida Infection: Pathogenesis, Diagnosis and Therapy"

October 21

Abraham M. Lilienfeld, M.D., Professor of Epidemiology, The Johns Hopkins School of Hygiene and Public Health, Baltimore
"Epidemiology as a Tool in Internal Medicine"

November 11

The Julius Friedenwald Memorial Lecture
Stanley E. Bradley, M.D., Samuel Bard Professor of Medicine, College of Physicians and Surgeons of Columbia University, New York
"Recent Advances in Hepatology"

January 27, 1976

The Charles Getz, M.D. Memorial Lecture
Edward D. Frohlich, M.D., George Lynn Cross Research Professor, University of Oklahoma Health Sciences Center, Oklahoma
"The Pathophysiology and Treatment of Hypertensive Disease"

February 17

The Phi Delta Epsilon Lecture
David M. Kipnis, M.D., Professor and Chairman, Department of Medicine, Washington University School of Medicine, St. Louis
"A Physiological Approach to the Pathophysiology of Clinical Hypoglycemia"

March 16

F. Mason Sones, M.D., Senior Physician, Department of Cardiology, Cleveland Clinic, Cleveland
"Cardiac Blood Supply in Health and Disease"

April 13

Allen R. Myers, M.D., Associate Professor of Medicine, Chief, Rheumatology Section, University of Pennsylvania, Philadelphia
"Systemic Lupus Erythematosus: Current Concepts"

April 27

The Alice Band Memorial Lecture
Philip D. Zieve, M.D., Physician-in-Chief, Baltimore City Hospital, Associate Professor of Medicine, Johns Hopkins University School of

Medicine and University of Maryland School of Medicine

"Immune Thrombocytopenic Purpura"

May 11

James J. Cerda, M.D., Associate Professor of Medicine, University of Florida College of Medicine, Gainesville
"Part I. Malabsorption and Maldigestion"
Phillip P. Toskes, M.D., Associate Professor of Medicine, University of Florida College of Medicine, Gainesville
"Part II. Malabsorption and Maldigestion"

July 20

Louis R. Caplan, M.D., Director, Department of Neurology, Beth Israel Hospital, Boston
"The Etiology and Control of Cerebral Apoplexy"

August 10

Robert J. Myerburg, M.D., Professor of Medicine, Director, Division of Cardiology, University of Miami School of Medicine
"The Current Status of Cardiac Diagnosis and Treatment"

September 14

The Charles Getz, M.D. Memorial Lecture
Joseph H. Holmes, M.D., Professor of Medicine and Radiology, Director, Ultra Sound Laboratory, University of Colorado Medical Center, Denver
"Tissue Characterization by Ultra Sound"

October 12

The Alice Band Memorial Lecture
Michael B.A. Oldstone, M.D., Professor of Immunopathology, Scripps Clinical and Research Foundation, Professor of Neurosciences and Pathology, University of California School of Medicine, San Diego
"Virus Antibody Immune Complex Disease"

November 16

The Julius Friedenwald Memorial Lecture
T. Kenney Gray, M.D., Associate Professor of Medicine, Associate Director, Clinical Research Unit, The University of North Carolina, School of Medicine at Chapel Hill
"Hormonal Control of Calcium Absorption"

2. *The Nineteenth Maurice C. Pincoffs Lecture*
Monday, December 1, 1975—Davidge Hall,
8:15 p.m.

Lewis Thomas, M.D., President, Sloan-Kettering
Cancer Center, New York
"The Problem of Self in Biology"

Former Pincoffs Lecturers

- 1957 Dr. Joseph E. Smadel
- 1958 Dr. George W. Thorn
- 1959 Dr. Irvine H. Page
- 1960 Dr. Bernard J. Alpers
- 1961 Dr. John H. Dingle
- 1962 Dr. Jerome W. Conn
- 1963 Dr. Julius H. Comroe, Jr.
- 1964 Dr. Arnold S. Relman
- 1965 Dr. Eugene A. Stead, Jr.
- 1966 Dr. Alfred Gellhorn
- 1967 Dr. Albert H. Coons
- 1968 Dr. William B. Bean
- 1969 Dr. Robert A. Good
- 1970 Dr. John H. Knowles
- 1971 Dr. Eugene Braunwald
- 1972 Dr. Marvin D. Siperstein
- 1973 Dr. Charles H. Rammelkamp
- 1974 Dr. David M. Kipnis

F. Special Postgraduate Programs in Medicine in Continuing Education

1. October 4, 1975

Three State Regional Meeting of the American College of Physicians. Davidge Hall
Course Director: Dr. Richard B. Hornick,
Governor for Maryland
Meeting open to Members, Fellows and Associates of the College and to all physicians, house officers and students.

2. October 25 and 26

Internal Medicine: A Weekend Review.
Course Directors: Dr. Barry Schlossberg,
Dr. Harold Standiford and Dr. Morton Rapoport.

3. December 5 and 6

The General Practitioner in the Treatment of Alcoholism.

Course Directors: Dr. Willem Bosma and Dr. Frank Iber

4. February 12-14, 1976

Dermatology Days.

Course Director: Dr. Harry M. Robinson, Jr.

5. March 5 and 6

Gastroenterology: Management of the Problem Patient.

Course Directors: Dr. Richard Baum and Dr. Frank Iber

6. March 25-27

Advances in Clinical Oncology Including Diagnosis and Management.

Course Directors: Dr. Peter Wiernik and Dr. Theodore E. Woodward

7. May 10-12

Practical Intern Medicine: Advances and Review. (Co-sponsorship with the American College of Physicians) Hilton Inn, Annapolis, Maryland.

Course Directors: Dr. Morton Rapoport, Dr. Harold Standiford and Dr. Theodore E. Woodward

8. Ongoing

Visiting Practitioner Preceptorship Program. (By Arrangement)

Course Director: Dr. Ephraim T. Lisansky

G. Scientific Program of the University of Maryland Hospital Association, December 7, 1976, Davidge Hall by Former Staff Members and Alumni—Bicentennial Celebration

1. N. David Charkes, M.D., Professor and Chairman, Section of Nuclear Medicine, Temple University Health Sciences
"The Impact of Radioisotope Bone Scans on Medical Practice"

2. Mario R. Garcia-Palmieri, M.D., Professor and Chairman, Department of Medicine, University of Puerto Rico
"The Spectrum of Cardiac Disorders in Puerto Rico"
3. Norton Spritz, M.D., Director of Medicine, Manhattan Veterans Administration Hospital, Professor of Medicine, New York University College of Medicine
"Mechanisms in the Development of the Complications of Diabetes Mellitus"
4. Thomas B. Turner, M.D., Dean Emeritus of the Medical Faculty of the Johns Hopkins University
"Reflections on Medical Education"
5. David A. Levy, M.D., Assistant Professor of Medicine, Johns Hopkins Medical Institutions
"A Decade with IgE"
6. John Z. Bowers, M.D., President Josiah Macy, Jr. Foundation New York
"Historical Influences in the Development of American Medicine"
7. Fred R. McCrumb, Jr., M.D., The Fogarty International Center National Institutes of Health
"America's Health Research Overseas"
8. Arthur H. Schmale, Jr., M.D., Professor of Psychiatry, Associate Professor of Medicine, The Strong Memorial Hospital, University of Rochester, New York
"Psychic Controls of Somatic Functioning"
9. Kenneth Zierler, M.D., Professor of Medicine and Physiology Johns Hopkins University
"Function of Cell Membranes in Health and Disease"
10. Richard P. Wenzel, M.D., Assistant Professor of Medicine, University of Virginia School of Medicine, Hospital Epidemiologist, University of Virginia Hospital
"Hospital Acquired Infections"
11. Leonard J. Morse, M.D., Clinical Assistant Professor of Medicine, University of Massachusetts Medical School
"Epidemiologic Practice Outside of the Ivory Tower"

H. Medical Grand Rounds for the Year 1974-75 Included the Following Programs

1974

July 9

"HEAT STROKE"

Discussed by:

Dr. Sheldon E. Greisman, Professor of Medicine, Division of Infectious Diseases — UMSM

July 16

"HEPATORENAL SYNDROME"

Presented by:

Dr. F. Lawrence Dewberry, Intern in Medicine — UH

Discussed by:

Dr. Frank L. Iber, M.D., Professor of Medicine, Head, Division of Gastroenterology — UMSM, BVAH

July 23

"PULMONARY TUBERCULOSIS"

Presented by:

Dr. Daniel C. Hardesty, Junior Assistant Resident in Medicine — UH

Discussed by:

Dr. Charles B. Payne, Jr., Assistant Professor of Medicine, Division of Pulmonary Diseases — UMSM

"CONSTRICTIVE PERICARDITIS"

Presented by:

Dr. Charles G. Elliott, Junior Assistant Resident in Medicine — UH

Discussed by:

Dr. Theodore E. Woodward, Professor and Head, Department of Medicine — UMSM

July 30

"RENAL VEIN THROMBOSIS"

Presented by:

Dr. Charles B. Hatton, Intern in Medicine — UH

Discussed by:

Dr. Andrew Nowakowski, Assistant Professor of Medicine, Division of Nephrology — UMSM

August 6,

"HEREDITARY SPHEROCYTOSIS"

Presented by:

Dr. A. Robert Masten, Junior Assistant Resident in Medicine — UH

Discussed by:
Dr. Rouben M. Jiji, Associate Professor of
Medicine, Division of Hematology — UMSM

"CONCEPTS IN DIAGNOSIS AND MANAGEMENT OF HODGKIN'S DISEASE"

Discussed by:
Dr. Peter H. Wiernik, Associate Professor of
Medicine, Head, Department of Medicine of
the Baltimore Cancer Research Center —
UMSM

August 13,

"INFECTION IN THE RENAL TRANSPLANT PATIENT"

Presented by:
Dr. Jeffrey Stuart Sollins, Intern, Department
of Medicine
Discussed by:
Dr. Richard B. Hornick, Professor of
Medicine, Head, Division of Infectious Dis-
eases — UMSM

August 20,

"ERYTHEMA MULTIFORME"

Presented by:
Dr. Daniel C. Hardesty, Junior Assistant Resi-
dent in Medicine
Discussed by:
Dr. Harry M. Robinson, Jr., Professor and
Head, Division of Dermatology — UMSM

"WOLF-PARKINSON-WHITE SYNDROME"

Presented by:
Dr. John Misiti, Junior Assistant Resident in
Medicine
Discussed by:
Dr. Kenneth S. Gimble, Assistant Professor of
Medicine, Division of Cardiology — UMSM

September 10, 1974

"PROSTHETIC HEART DISEASE"

Presented by:
Dr. Mark M. Applefeld, Chief Resident in
Medicine
Discussed by:
Dr. Bernadine Bulkly, Fellow in Medicine in
Cardiology, Johns Hopkins Hospital

"TULAREMIA"

Presented by:
Dr. Jerry Sterner, Resident in Family Practice
Discussed by:
Dr. Theodore E. Woodward, Professor and

Head, Department of Medicine — UMSM

September 17,

"SYNDROME OF INAPPROPRIATE ADH"

Presented by:
Dr. John Misiti, Junior Assistant Resident in
Medicine
Discussed by:
Dr. Luis G. Martin, Assistant Professor of
Medicine, Division of Endocrinology and
Metabolism — UMSM

September 24,

BREAST CARCINOMA: OPERATIVE MANAGEMENT"

Presented by:
Dr. Jeffrey S. Sollins, Intern in Medicine
Discussed by:
Dr. Harry C. Hull, Professor of Surgery —
UMSM

"CHEMOTHERAPEUTIC REGIMENS"

Discussed by:
Dr. Stephen C. Schimpff, Assistant Professor
of Medicine, Baltimore Cancer Research
Center — UMSM

October 1,

"PEMPHIGUS VULGARIS — DIAGNOSIS AND THERAPY"

Presented by:
Dr. John Misiti, Junior Assistant Resident in
Medicine
Discussed by:
Dr. Harry M. Robinson, Jr., Professor of
Medicine, Head, Division of Dermatology —
UMSM

"HYPERTHYROIDISM — TREATMENT WITH BETA BLOCKAGE"

Presented by:
Dr. Daniel C. Hardesty, Junior Assistant Resi-
dent in Medicine — UMSM
Discussed by:
Dr. John G. Wiswell, Professor of Medicine —
UMSM
Dr. Fredrick C. Kauffman, Associate Professor
of Cell Biology and Pharmacology — UMSM

October 8,

"PATHOGENESIS OF ISCHEMIC HEART DISEASE"

Discussed by:
Dr. William C. Roberts, Chief, Section of

Pathology, National Heart and Lung Institute
— NIH, Clinical Professor of Pathology and
Medicine, Georgetown University School of
Medicine

October 15

"GUILLAIN-BARRÉ SYNDROME"

Presented by:

Dr. James W. Pitts, Junior Assistant Resident
in Medicine — UMSM

Discussed by:

Dr. George D. Yannakakis, Head, Department
of Neurology, Baltimore V.A. Hospital
Clinical Associate Professor, Department of
Neurology — UMSM

"CHOLEDOCHODUODENAL FISTULA"

Presented by:

Dr. Frederick L. Dewberry, Intern in Medicine

Discussed by:

Dr. Richard A. Baum, Assistant Professor of
Medicine, Division of Gastroenterology—
UMSM

October 22

**"PRIMARY MYOCARDIAL DISEASE —
CURRENT CONCEPTS"**

Presented by:

Dr. Marc A. Mugmon, Junior Assistant Resident
in Medicine

Discussed by:

Dr. Mark M. Applefeld, Chief Resident in
Medicine — UMSM

October 29

**"TOPHACEOUS GOUT — PATHOGENESIS
AND THERAPY"**

Presented by:

Dr. Daniel C. Hardesty, Junior Assistant
Resident in Medicine

Discussed by:

Dr. Leonard H. Frank, Professor, Biological
Chemistry — UMSM

Dr. Jean M. Jackson, Assistant Professor of
Medicine, Head, Division of Rheumatology—
UMSM

"SICKLE CELL DISEASE"

Presented by:

Dr. Jeffrey Pargament, Intern in Medicine

Discussed by:

Dr. Sheldon Amsel, Assistant Professor of
Medicine, Division of Hematology — UMSM

November 5

"PNEUMOMEDIASTINUM"

Presented by:

Dr. Martin Magram, Resident in Medicine,
Mercy Hospital

Discussed by:

Dr. Louis E. Grenzer, Instructor, Department
of Medicine, Division of Cardiology—UMSM

"HYPOPITUITARISM"

Presented by:

Dr. William A. Valente, Intern in Medicine

Discussed by:

Dr. Thomas B. Connor, Professor of
Medicine, Head, Division of Endocrinology
and Metabolism, Director, Clinical Study
Center — UMSM

November 12

"SUPERIOR VENA CAVA SYNDROME"

Presented by:

Dr. Clifford R. Merchant, Junior Assistant
Resident in Medicine

Discussed by:

Dr. Michael G. Hayes, Associate Head, Division
of Pulmonary Diseases, Maryland General
Hospital, Instructor in Medicine —
UMSM

Dr. Wolfgang J. Mergner, Associate Professor
and Head Autopsy Services — Pathology —
UMSM

"POTT'S DISEASE"

Presented by:

Dr. John Misiti, Junior Assistant Resident in
Medicine

Discussed by:

Dr. Harold C. Standiford, Staff Physician, Infectious
Diseases Division, Baltimore V.A.
Hospital, Assistant Professor of Medicine —
UMSM

November 19

**THE JULIUS FRIEDENWALD MEMORIAL LEC-
TURE "THE ROLE OF FIBROSIS IN THE
CHRONICITY OF LIVER DISEASE"**

Discussed by:

Dr. Hans Popper, Gustave L. Levy, Distinguished
Service Professor, Mount Sinai
School of Medicine

November 26

"AUSCULTATORY ROULETTE"

Discussed by:

Dr. W. Proctor Harvey, Professor of Medicine, Director, Division of Cardiology, Georgetown University Hospital, Washington, D.C. Visiting Professor of Medicine, University of Maryland School of Medicine

December 3

"MENINGOCOCCAL ARTHRITIS AND MENINGITIS"

Presented by:

Dr. Irvin M. Cohen, Assistant Resident in Medicine

Discussed by:

Dr. Robert T. Parker, Chief of Medicine, Good Samaritan Hospital, Associate Professor of Medicine — UMSM

"CULTURE NEGATIVE ENDOCARDITIS"

Presented by:

Dr. Daniel C. Hardesty, Junior Assistant Resident in Medicine

Discussed by:

Dr. Jay S. Goodman, Assistant Chief of Medicine, Mercy Hospital, Associate Professor of Medicine — UMSM

December 10

"HYPERTENSION — WHERE HAVE WE BEEN; WHERE ARE WE GOING"

Discussed by:

Dr. George Entwisle, Professor of Preventive Medicine, Associate Professor of Medicine — UMSM

"TUBERCULOSIS PERITONITIS — A NOT UNCOMMON ENTITY"

Presented by:

Dr. James W. Pitts, Jr., Junior Assistant Resident in Medicine

Discussed by:

Dr. Theodore E. Woodward, Professor and Head Department of Medicine — UMSM

December 17

"THE OUTCOME OF GRANULOMATOUS BOWEL DISEASE"

Discussed by:

Dr. Richard G. Farmer, Chairman, Department of Gastroenterology, Cleveland Clinic Foundation, Cleveland, Ohio

1975

January 7

"PELLAGRA"

Presented by:

Dr. John Misiti, Junior Assistant Resident in Medicine

Discussed by:

Dr. Irving D. Wolfe, Instructor in Medicine in Dermatology — UMSM

"NEPHROGENIC DIABETES INSIPIDUS"

Presented by:

Dr. Alfred J. Saah, Junior Assistant Resident in Medicine

Discussed by:

Dr. Luis G. Martin, Assistant Professor of Medicine, Division of Endocrinology and Metabolism — UMSM

January 14

**THE ALICE BAND MEMORIAL LECTURE
"POLYCYTHEMIA: VARIOUS FORMS AND MECHANISMS"**

Discussed by:

Dr. C. Lockard Conley, Professor of Medicine, Johns Hopkins University School of Medicine

January 21

"DRUG INDUCED HEPATITIS"

Discussed by:

Dr. Hyman Zimmerman, Chief, Medical Service, Washington V.A. Hospital, Professor of Medicine, George Washington University Hospital, Washington, D.C.

January 28

"ABDOMINAL AORTIC ANEURYSM"

Presented by:

Dr. Karen M. Lichtenfeld, Assistant Resident in Medicine

Discussed by:

Dr. Joseph S. McLaughlin, Professor and Head, Thoracic and Cardiovascular Surgery — UMSM

"RHEUMATOID ARTHRITIS"

Presented by:

Dr. Frederick L. Dewberry, Intern in Medicine

Discussed by:

Dr. Jean M. Jackson, Assistant Professor of Medicine, Head, Division of Rheumatology — UMSM

February 4

**"THE MEDICAL HOUSE OFFICERS LECTURE"
"TECHNOLOGICAL BREAKTHROUGHS IN
RADIOLOGY"**

Discussed by:

Dr. Henry N. Wagner, Jr. Professor of Medicine, Professor of Radiology and Radiation Health, Chief, Nuclear Medicine, Johns Hopkins University School of Medicine and Hospital

February 11

"SICKLE CELL DISEASE"

Presented by:

Dr. James W. Pitts, Jr., Junior Assistant Resident in Medicine

Discussed by:

Dr. Sheldon Amsel, Assistant Professor of Medicine, Division of Hematology — UMSM

"BRONCHOGENIC CARCINOMA"

Presented by:

Dr. Russell H. Kramer, Intern in Medicine

Discussed by:

Dr. Peter H. Wiernik, Associate Professor of Medicine, Head, Department of Medicine of the Baltimore Cancer Research Center — UMSM

February 18

**"OPHTHALMIC MANIFESTATIONS OF GRAVES
DISEASE"**

Presented by:

Dr. Louis N. Randall, Intern in Medicine

Discussed by:

Dr. John G. Wiswell, Professor of Medicine — UMSM

"HEREDITARY NEPHRITIS"

Presented by:

Dr. Frederick J. Sutton, Junior Assistant Resident in Medicine

Discussed by:

Dr. John H. Sadler, Associate Professor of Medicine, Head, Division of Nephrology — UMSM

February 25

"MUCORMYCOSIS"

Presented by:

Dr. Mark Jacobs, Junior Assistant Resident in Medicine

Pathologic Correlation:

Dr. Wolfgang J. Mergner, Associate Professor

of Pathology, Head, Autopsy Services — UMSM

Clinical Discussion:

Dr. Frank A. Calia, Associate Professor of Medicine, Head, Division of Clinical Infectious Diseases — UMSM

Chief, Infectious Diseases — Baltimore V.A. Hospital

"SUDDEN UNEXPECTED DEATH"

Dr. Irvin M. Sopher, Clinical Associate Professor of Pathology, Chief Medical Examiners Office — UMSM

March 4

"GAUCHER'S DISEASE"

Presented by:

Dr. Kenneth S. Lewis, Intern in Medicine

Discussed by:

Dr. Stephen R. Max, Associate Professor of Neurology — UMSM

**"ATROMID-S AND NIACIN IN CORONARY
HEART DISEASE: RESULTS OF THE CORONARY
DRUG PROJECT"**

Discussed by:

Dr. Christian R. Klimt, Professor and Director, Division of Clinical Investigation, Social and Preventive Medicine — UMSM

March 11

PHI DELTA EPSILON LECTURE

**"DIABETIC KETOACIDOSIS AND NON KETO-
TIC COMA"**

Discussed by:

Dr. Norton Spritz, Professor of Medicine, New York University School of Medicine, Chief, Medical Service, New York Veterans Administration Hospital

March 18

"SPECTRUM OF THE BILLOWING VALVE"

Presented by:

Dr. William A. Valente, Intern in Medicine

Discussed by:

Dr. James A. Ronan, Co-Director of Cardiology, Washington Adventist Hospital, Clinical Associate Professor of Medicine, Georgetown University School of Medicine, Washington, D.C.

"BUDD CHIARE SYNDROME"

Presented by:

Dr. Alfred J. Saah, Junior Assistant Resident in Medicine

Pathologic Correlation:

Dr. Wolfgang J. Mergner, Associate Professor and Head, Autopsy Division Department of Pathology — UMSM

Clinical Discussion:

Dr. Richard E. Sampliner, Assistant Professor of Medicine, Division of Gastroenterology — UMSM

March 25

"ATYPICAL PRESENTATIONS OF MULTIPLE MYELOMA"

Presented by:

Dr. George A. Moran, Intern in Medicine

Discussed by:

Dr. Rouben M. Jiji, Associate Professor of Medicine, Division of Hematology — UMSM

"CHRONIC ACTIVE HEPATITIS"

Presented by:

Dr. Charles Greg Elliott, Junior Assistant Resident in Medicine

Discussed by:

Dr. Frank L. Iber, Professor of Medicine, Head, Division of Gastroenterology — UMSM
Baltimore V.A. Hospital

April 1

"MYOSITIS OSSIFICANS"

Discussed by:

Dr. T. Hugh Morgan, Professor and Head Department of Orthopaedic Surgery — UMSM

"PYOGENIC ARTHRITIS"

Presented by:

Dr. John Misiti, Junior Assistant Resident in Medicine

Discussed by:

Dr. Harold C. Standiford, Assistant Professor of Medicine, Division of Infectious Diseases — UMSM

Associate Director of Infectious Diseases — BVAH

April 8

"HYPOPARATHYROIDISM"

Presented by:

Dr. Jack J. Applefeld, Assistant Resident in Medicine

Discussed by:

Dr. Thomas B. Connor, Professor of Medicine, Director, Division of Endocrinology and Metabolism, Clinical Study Center — UMSM

"CLINICAL SYNDROME OF CERVICAL SPONDYLOTIC MYELOPATHY"

Presented by:

Dr. Wolfe J. Blotzer, Assistant Resident in Medicine

Discussed by:

Dr. George D. Yannakakis, Clinical Associate Professor, Department of Neurology — UMSM

Chief of Neurology Section BVAH

April 15

THE CHARLES GETZ, M.D. MEMORIAL LECTURES

"PATHOGENESIS AND CURRENT CONCEPTS OF TREATMENT AND CONTROL OF TUBERCULOSIS"

Discussed by:

Dr. Sol Katz, Professor of Medicine, Georgetown University School of Medicine Washington, D.C.

April 22

"RENAL TUBERCULOSIS"

Presented by:

Dr. Marc A. Mugmon, Junior Assistant Resident in Medicine

Discussed by:

Dr. Jay S. Goodman, Associate Professor of Medicine, University of Maryland School of Medicine, Assistant Chief of Medicine, Mercy Hospital

"MALARIA"

Presented by:

Dr. Melvin L. Clayton, Junior Assistant Resident in Medicine

Discussed by:

Dr. Richard B. Hornick, Professor of Medicine, Head, Division of Infectious Disease — UMSM

April 29

"BODY LANGUAGE IN THE PRACTICE OF MEDICINE"

Discussed by:

Dr. Gordon H. Deckert, Professor and Chairman, Department of Psychiatry, University of Oklahoma School of Medicine

May 6

"CARCINOMA OF THE THYROID"

Presented by:

Dr. Jeffrey S. Sollins, Intern in Medicine

Discussed by:
Dr. Harry C. Hull, Professor of Surgery — UMSM
Dr. John G. Wiswell, Professor of Medicine — UMSM

“PROTEAN MANIFESTATIONS OF EARLY SYPHILIS”

Presented by:
Dr. Louis N. Randall, Intern in Medicine
Discussed by:
Dr. Harry M. Robinson, Jr., Professor of Medicine, Head, Division of Dermatology — UMSM

May 13

“SYSTEMIC LUPUS ERYTHEMATOSUS”

Presented by:
Dr. Harold J. Tucker, Junior Assistant Resident in Medicine
Discussed by:
Dr. Jean M. Jackson, Assistant Professor of Medicine, Head, Division of Rheumatology — UMSM

“HYPOTHERMIA”

Presented by:
Dr. David A. VanEcho, Junior Assistant Resident in Medicine
Discussed by:
Dr. Sheldon E. Greisman, Professor of Medicine, Division of Infectious Diseases — UMSM

May 20

“GOODPASTURE’S SYNDROME”

Presented by:
Dr. John A. Lang, Intern in Medicine
Pathologic Correlation:
Dr. Moon L. Shin, Assistant Professor of Pathology — UMSM
Discussed by:
Dr. Andrew Nowakowski, Assistant Professor of Medicine — UMSM

“PRINZMETAL’S ANGINA”

Presented by:
Dr. James M. Raver, Intern in Medicine
Discussed by:
Dr. Stephen M. Austin, Assistant Professor of Medicine, Division of Cardiology — UMSM

May 27

“PNEUMOCYSTIS CARINII”

Presented by:
Kathryn Peroutka, Senior Medical Student, Graduation Class of June, 1975 — UMSM
Discussed by:
Dr. Stephen C. Schimpff, Assistant Professor of Medicine, Baltimore Cancer Research Center — UMSM

“ROCKY MOUNTAIN SPOTTED FEVER”

Discussed by:
Dr. Theodore E. Woodward, Professor and Head, Department of Medicine — UMSM

RESEARCH

Research is conducted under the auspices of the various subspecialty Divisions of Medicine and within the framework of the general department. Those research activities and list of publications not given in this section may be found in the various subspecialty divisions.

During the past year, Dr. Greisman and his associates have continued studies on the mechanisms by which resistance is acquired to the toxic activities of gram-negative bacterial endotoxins. Specifically, the effect of exchange transfusions following the intravenous administration of lethal doses of endotoxin into experimental animal models has been evaluated. The inability to reduce lethality despite rapid removal of the toxin from the circulation has been documented and the concept advanced that endotoxin tolerance cannot be based simply upon enhanced clearance of toxin from the blood by the reticuloendothelial system. In addition, studies have been completed detailing the effect of splenectomy upon the responses of man and of experimental animals to bacterial endotoxins. The importance of the spleen for antibody formation and for the development of tolerance to endotoxin has been documented. Finally, studies on the effectiveness of heparin in experimental heat stroke have been completed. The ineffectiveness of early heparinization on heat stroke mortality was confirmed and contrasts with the highly protective effect of ice baths.

PUBLICATIONS

1. S.E. Greisman, and B. DuBuy, Mechanisms of endotoxin tolerance IX. Effect of exchange transfusion. *Proc. Soc. Exp. Biol. and Med.* 148:675, 1975.
2. S.E. Greisman, E.J. Young, J.B. Workman, R.M. Ollodart, and R.B. Hornick, Mechanisms of endotoxin tolerance: The role of the spleen. *J. Clin. Invest. In Press.*

STAFF HONORS AND ACTIVITIES

Faculty Personnel Notes

1. **Dr. Charles B. Payne, Assistant Professor of Medicine**

Doctor Payne, Assistant Professor of Medicine and academician in the field of pulmonary diseases, resigned on August 30, 1975, to undertake the Headship of the Division of Pulmonary Diseases at the Cleveland Veterans Administration under the program of Case Western Reserve School of Medicine. Doctor Payne was recruited originally to head the Department of Medicine at the Provident Hospital in Baltimore and transferred to the Department of Medicine at the University of Maryland School of Medicine on a full-time basis in 1973. In addition to his teaching of medicine to students and house officers, Doctor Payne organized and conducted excellent post-graduate programs in Inhalation Therapy and Respiratory Physiology. During these years, Doctor Payne made many friends. His contribution is appreciated.

2. **Dr. Jean M. Jackson, Assistant Professor of Medicine and Head of the Division of Rheumatology**

Doctor Jackson resigned her position on June 30, 1975, to rejoin the staff of the Robert Bent Brigham, Boston, on the service of Dr. Frank Austen. Doctor Jackson taught the principles of medicine and rheumatology and served as a stimulus for those working on her service.

Dr. Mary Betty Stevens was appointed as Director of the Division of Rheumatology with the rank of Associate Professor of Medicine in July, 1975. Doctor Stevens, Head of the Division of Connective Tissue Diseases at the Good Samaritan Hospital and the Johns Hopkins University will direct an over-all Center Program in Rheumatology stressing teaching and medical practice in this important field. She is an outstanding person and one well-equipped to direct this broad activity. Dr. Thomas M. Zizic, newly appointed as Assistant Professor of Medicine will assist Doctor Stevens in the development of this collaborative educational, practice, and research program.

3. **Dr. Ephraim T. Lisansky, Professor of Medicine and Master of the American College of Physicians**

Doctor Lisansky received the William C. Menninger Award of the American College of Physicians in April, 1974, for his outstanding work in Internal Medicine and Psychiatry through many years.

4. **Dr. Edward F. Cotter, Associate Professor of Medicine**

Dr. Cotter, who served as a most effective teacher of medicine and staff member for many

years, and Head of the Division of Physical Diagnosis, was granted Emeritus status.

5. **Dr. Louis A. M. Krause, Professor of Clinical Medicine**

Doctor Krause, who had been Professor of Clinical Medicine since 1964, died on Sunday, July 27, 1975, at the St. Joseph's Hospital. Dr. Krause was one of Baltimore's leading clinicians who was recognized as an outstanding teacher in Baltimore and throughout the United States. The Department of Medicine held a testimonial dinner in his honor on July 6, 1966, at the time of his retirement when he was awarded a Captain's chair and an inscribed plate.

Louis A. M. Krause, M.D., F.A.C.P.

Classic Clinical Teacher

Able Physician and a Life Long Student

From his Colleagues at the

University of Maryland Hospital.

6. **Dr. Malcolm Cooper, Head of the Division of Nuclear Medicine**

Doctor Cooper, Head of the Division of Nuclear Medicine since 1972, has reorganized and expanded this unit into an effective teaching, research and diagnostic service unit. Newly appointed members of the division are Dr. Michael D. Loberg, Assistant Professor, Dr. Edward U. Buddemeyer, Associate Professor of Medicine, Dr. James A. Quinlan, Assistant Professor of Medicine, and Miss Elizabeth Harvey, Assistant in Medicine. Dr. Cooper resigned as Director of the Division and accepted a similar position at the University of Chicago. In 1976 Dr. Gerald S. Johnston was recruited from the National Institutes of Health to head the Division.

7. **Dr. Leonard Scherlis, Head of the Division of Cardiology**

Doctor Scherlis has strengthened the teaching and research activities of the division through the recruitment of Dr. Stephen Austin, Assistant Professor of Medicine, Dr. Kenneth Gimbel, Assistant Professor of Medicine and Dr. Mark Applefeld, Assistant Professor of Medicine.

8. **Dr. John H. Sadler, Associate Professor of Medicine and Head of the Division of Nephrology**

The Division of Nephrology, under the leadership of Doctor Sadler, has strengthened its educational and research program and broadened its competence in renal dialysis and organ transplantation through the recruitment of Dr. Emilio Ramos in 1972, Dr. Andrew Nowakowski in 1973, and Dr. John Little in 1974.

During 1974-75, Doctor Woodward was elected to membership of the Board of Regents of the American College of Physicians, and appointed as a member of the Advisory Panel of the U.S. Army Medical Research and Development Command.

DEPARTMENTAL STAFF MEETINGS DEPARTMENT OF MEDICINE UNIVERSITY OF MARYLAND HOSPITAL

DATE	NO. ATTENDING	TOPIC DISCUSSED
September 10, 1974	35	Review of Departmental Conferences for the year including all specialty areas
September 17, 1974	34	Discussion of the teaching program in the course, Introduction to Medicine, comparing medical students in freshmen and sophomore years
September 24, 1974	34	Protocol and discussion of the Clinical Pharmacy Program
October 1, 1974	32	Cost Center Analysis Discussion and Review
October 8, 1974	35	Dr. William C. Roberts from the National Heart and Lung Institute of NIH discussed in further detail the "Pathogenesis of Ischemic Heart Disease"
October 15, 1974	33	Discussion of Autopsy Services available to house staff and faculty for teaching purposes
October 22, 1974	34	Family Practice Residency Program
October 29, 1974	30	Discussion of the Medical House Staff Program for 1975-76
November 5, 1974	34	Discussion of the Primary Care Clinic and the role of nurse practitioners
November 12, 1974	33	Further discussion of the Cost Center
November 19, 1974	36	THE JULIUS FRIEDENWALD MEMORIAL LECTURE AND LUNCHEON Dr. Hans Popper, distinguished Visiting Professor
November 26, 1974	36	Dr. W. Proctor Harvey, Visiting Professor of Medicine, spoke on Auscultatory Roulette
December 3, 1974	32	The Role of the Medical Admitting Officer
December 10, 1974	30	Medical Bed Priorities
December 17, 1974	32	Visiting Professor Dr. Richard G. Farmer, Cleveland Clinic Foundation, spoke on new advances in the field of gastroenterology
January 7, 1975	34	Preparation for the Boards in Internal Medicine/ Subspecialty Boards included
January 14, 1975	37	THE ALICE BAND MEMORIAL LECTURE AND LUNCHEON Dr. C. Lockard Conley from Johns Hopkin Hospital spoke on recent hematologic advances
January 21, 1975	32	Discussion of the opening of a renal ward
January 28, 1975	30	Discussion stressing the need for attending physicians to discharge their responsibilities while on service; i.e., teaching, keeping abreast of medical developments in all patients on their service; being on-call, etc.
February 4, 1975	35	THE MEDICAL HOUSE OFFICERS LECTURE AND LUNCHEON Discussion of medical house staff of today from yesteryear

ORGANIZATION AND BEGINNINGS OF RESIDENCY PROGRAM IN GENERAL PRACTICE (TRAINING IN PRIMARY CARE)

In the mid-1950's, training programs in Medicine stressed the subspecialties in addition to a firm indoctrination in general medicine. At that time, there were no accepted programs for training in general practice in Maryland; because of the interest of Maryland graduates for training in general practice, as well as our desire to attract and retain highly competent physicians in Baltimore and Maryland, the Department organized and developed a residency program in general practice.

ORGANIZATIONAL CONCEPTS

It was viewed as essential that the early training in medical school should be undifferentiated with graduates having acquired a full experience in the fundamentals of medicine (basic sciences, pathophysiology) and in clinical skills, including proficiency in history-taking and performance of physical examinations.

A rotating internship then available provided 4-6 months in Medicine, about two months in Pediatrics, two months in the Emergency Room, and the remainder of the year in other clinical disciplines. Later, a mixed internship was adopted which provided approximately six months Medicine, four months Pediatrics, and two months of Emergency Room experience. Selected students were permitted time in Surgery and other clinical fields on request.



A second year of training (the first year of general practice residency) was primarily a medical year with considerable stress upon primary care. Six months of this year were served in the Medical Outpatient Department, primarily in the General Medicine Clinic but also in Subspecialty Clinics (Diabetes, Gastroenterology, Cardiology, Pulmonary, Rheumatology, etc.) and in the following clinics other than the regular subspecialty clinics in Medicine, i.e., Ophthalmology, Gynecology-Obstetrics, and Dermatology. These provided additional orientation for general practice and were supplemental to the internship experience. During this six-month training, the general practice resident visited clinic patients in their homes when indicated. These activities were reported to the full-time Head of the Medical Clinic and his staff. A model general practice office was available in the old medical outpatient clinic on the fourth floor with office equipment provided, without charge, by a local supply firm.

During the second six months of the second year of training the general practice resident was assigned in the hospital to the medical service in full collaboration with other teaching medical residents. The general practice resident continued to follow in the Outpatient Department, patients who he had cared for during his earlier ambulatory experience as well as his inpatients who were discharged to the Outpatient Department for follow-up.

The third year of the general practice residency was designed for the individual and depended upon the physician's intent either to practice alone or with a group. More training in either Pediatrics or Psychiatry was given if the candidate was to serve this additional function in the group. Similarly, more training in Gynecology-Obstetrics, Minor Surgery, Anesthesiology, Orthopedics, etc. was offered to support practice plans. Most of the third year house officers served for 2 or 3 months in affiliated hospitals in Maryland, e.g., Peninsula General Hospital in Salisbury, Memorial Hospital in Hagerstown, Maryland General Hospital in Baltimore, Hanover General Hospital, where they often chose to settle.

Most candidates participated in the full three-year program although some entered practice after two years. Other residents joined our program after internship elsewhere. The largest number of residents in general practice for any one year was four, the average was two.

The first and second years were accepted for credit by the American Board of Internal Medicine.

During these early years, the Maryland Academy of General Practice made financial awards to some trainees. This group was of considerable assistance and some of its members were helpful in planning. Also, the American College of Physicians through the Mead Johnson Company made awards of \$1,000 each year for support of certain candidates.

PERSONNEL AND FISCAL

With the obvious trend and increased need for more practicing physicians, the Department of Medicine recruited a full-time head for its Division of General Practice (which later became the Division of Family Practice in the Department of Medicine).

Doctor William Stewart of Westminster was recruited and joined the faculty on a half-time basis in 1967 as Assistant Professor of Medicine and Preventive Medicine, supported by funds available to the Department of Medicine. He was promoted to the rank of Associate Professor the following year. The Departments of Preventive Medicine and Pediatrics supported the training program. Dr. Stewart and his small group occupied the facilities of the Medical Care Clinic on the second floor of the University of Maryland Hospital. A screening clinic for patients functioned under him with participation by residents in Medicine assigned from the Medical Outpatient Clinic.

In 1966, the Department of Medicine requested a full-time senior faculty position in Family Medicine and four general practice residents in its Asking Budget. The Faculty Position, several house officerships and a clerical item were awarded to the Department of Medicine in the Legislative Budget of fiscal year 1968.

Based on the foundation laid by the Department of Medicine and under sponsorship of Dr. Stewart from 1967 to 1971, the reorganized Division gained local and national recognition as a training site in Family Medicine. The Departments of Pediatrics and Preventive Medicine provided help and guidance. Dr. Stewart organized a student Family Practice Club and arranged for rotation of house officers for part of their training in other hospitals. He departed in 1971 to head another program and Dr. William T. Layman served as Interim Director until January 1972 when Dr. Edward J. Kowalewski was appointed as Head of the autonomous Division of Family Medicine. The Department of Medicine has committed itself to assist the new division in its educational and practice objectives.

MEDICAL SERVICE, BALTIMORE VA HOSPITAL

FACULTY

- Morton I. Rapoport, M.D.
Professor of Medicine
Chief, Medical Service
- Frank L. Iber, M.D.
Professor of Medicine
Chief, Gastroenterology Section
- William S. Spicer, M.D.
Professor of Medicine
- Frank M. Calia, M.D.
Associate Professor of Medicine
Chief, Infectious Diseases Section
- Bruce P. Hamilton, M.D.
Associate Professor of Medicine
Chief, Endocrinology and Metabolism
- Robert A. Kerr, Pharm. D.
Director and Associate Professor
Division of Clinical Pharmacy
- Herbert A. Kushner, M.D.
Associate Professor of Medicine
Associate Chief of Staff for Ambulatory Service
- Edward Rusche, M.D.
Associate Professor of Medicine
Chief, Pulmonary Function Laboratory
- Harold C. Standiford, M.D.
Associate Professor of Medicine
Infectious Diseases Section
- George D. Yannakakis, M.D.
Associate Professor of Medicine
Clinical Associate Professor of Neurology
Chief, Neurology Section
- Perry B. Austin, M.D.
Assistant Professor of Medicine
- Richard Baum, M.D.
Assistant Professor of Medicine
Gastroenterology Section
- Nicolas Buendia, M.D.
Assistant Professor of Medicine
Neurology Section
- Ethelred Carter, M.D.
Assistant Professor of Medicine
Gastroenterology Section
- Elaine Choi, M.D.
Assistant Professor of Medicine
Clinical Director, Alcohol Detoxification Unit
- Charles E. DeFelice, M.D.
Assistant Professor of Medicine
Cardiology Section
- Michael Fisher, M.D.
Assistant Professor of Medicine
Cardiology Section
- John McConville, M.D.
Assistant Professor of Medicine
Infectious Disease Section
- Sohrab Mobarhan, M.D.
Assistant Professor of Medicine
Gastroenterology Section
- Gary D. Plotnick, M.D.
Assistant Professor of Medicine
Cardiology Section

Robert Russell, M.D.
Assistant Professor of Medicine
Clinical Investigator, Gastroenterology Section

Richard E. Sampliner, M.D.
Assistant Professor of Medicine
Gastroenterology Section

Barry J. Schlossberg, M.D.
Assistant Professor of Medicine
Associate Chief of Staff for Education

Irving D. Wolfe, M.D.
Assistant Professor of Medicine,
Dermatology Section

Dr. Rapoport resigned his position at the VA Hospital to join the medical school as senior associate dean in 1976. A very creditable teaching program for medical students and house officers and creditable research were conducted under his direction. Dr. Frank Calia succeeded Dr. Rapoport as chairman. His work and that of his staff contributed very importantly to the department activities.

INTRODUCTION

The Program in Internal Medicine at the Baltimore VA Hospital underwent major organizational change in the late 1960's under the leadership of Dr. Woodward. Acting on recommendations by the Dean's Committee that a full-service acute care hospital be identified for the Baltimore metropolitan area, the VA Central Office established the Baltimore VA Hospital as the acute GM&S hospital for this region. Professional supervision of the Medical Service at this hospital was assigned to the University of Maryland School of Medicine. Dr. John Wiswell was selected as Acting Chief of Medical Service and held this position for a period of one year. In 1970, Dr. Morton I. Rapoport was appointed Chief of the Medical Service and continues to hold this position. By virtue of recognition of the potential role of the VA Hospital in the educational and investigative programs of the University of Maryland, Dr. Woodward was instrumental in helping to identify and attract an outstanding group of young clinicians to join the VA based faculty. Where feasible, complete integration of VA faculty and University faculty within specialty divisions was encouraged.

The growth of the VA Medical Service has been reflected in several manners. More than 30 full or part-time faculty members are based at the VA Hospital. Funding for the service including salary, administrative and education budget exceeds \$2,000,000/year and amounts to approximately 15% of the hospital's operating funds. This figure represents a 10-fold increase in the budget over four years. However, number of faculty or budget allocations cannot in themselves reflect on the quality or magnitude of service provided by a program.

EDUCATION

Current yearly figures indicate that approximately 40% of the second-year class is assigned to the Baltimore VA Hospital for Physical Diagnosis experience. At least 50% of the third-year class receives its medical clerkship at the VA Hospital. Virtually, 100% of the fourth-year class elects at least one month of primary care or subspecialty experience at the VA and the average number is in excess of two months of elective experience at the VA.

The graduate medical program is completely integrated during the first three years such that each trainee is assigned to VA-based services for approximately 50% of his clinical experience. Graduate training in most subspecialties is similarly integrated, although several specialties maintain separate training programs.

Prior to the integration of the chief medical residents into the university's training program the chief medical residents at the VA Hospital were: Drs. Mohamed S. Al-Ibrahim, P. Jan Geisler, Ronica M. Kluge, Lawrence Mills, Jr., Gary D. Plotnick, John R. Rogers, Barry J. Schlossberg and Steven Winter. Their contributions to the Department's program were highly significant.

Collaborative educational programs with the School of Pharmacy and School of Nursing have been implemented as part of a new thrust in ambulatory medicine. These programs reflect the strong commitment by the Medical Service to development of innovative and high-quality medical care systems as part of an overall emphasis in primary care education. Programs designed to educate and utilize clinical pharmacists and nurse practitioners as primary care providers are being evaluated at the VA Hospital under supervision of Dr. Barry Schlossberg, Dr. Herbert Kushner, and Dr. William Spicer. Integration of these programs with traditional medical educational programs has served to underscore the effort of our faculty and our school to develop innovative and more effective methods of health care delivery.

RESEARCH

Clinical investigation is a vital facet of the VA program. Under the leadership of Dr. Frank Calia, Associate Chief of Staff for Research, a progressive and relevant research program has evolved. Large-scale laboratory renovation, significant budgetary growth, and national recognition for this program has resulted. Over a period of four years, the institutional research budget has increased from \$40,000 to about \$500,000 annually. Four faculty members serve on editorial boards of national journals. Several faculty hold elective office in national research societies, and membership in NIA and VA study sections and advisory groups.

PUBLICATIONS

1. Ariyan, S., Farber, L.R., **Hamilton, B.P.M.** and Papac, R.J.: Pseudohyperparathyroidism in head and neck tumors. *Cancer* 33: 159, 1974.
2. Bryson, A.L., **Parisi, A.F.**, Wolfson, S.I. and Schecter, E.: Case Reports. Exercise induced ventricular tachycardia-cessation after aorto-coronary bypass surgery. *Am. J. Cardiol.* 32:995-999 Dec. 1973.
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DIVISION OF CARDIOLOGY

FACULTY

- Leonard Scherlis, M.D.
Professor of Medicine
Head, Division of Cardiology
- Robert T. Singleton, M.D.
Associate Professor of Medicine
Co-Director, Cardiovascular Laboratory
- Yu-Chen Lee, M.D.
Associate Professor of Medicine
Director, Graphics Laboratory
- Stephen M. Austin, M.D.
Assistant Professor of Medicine
Asst. Director Cardiovascular Laboratory
- Kenneth S. Gimbel, M.D.
Assistant Professor of Medicine
Director, Coronary Care Unit
- Miriam L. Cohen, M.D.
Assistant Professor of Medicine
Director, Adult Cardiac Clinic
- Jerry Salan, M.D.
Assistant Professor of Medicine
- Kyle Swisher, Jr., M.D.
Assistant Professor of Medicine
- Sidney Scherlis, M.D.
Assistant Professor of Medicine
- Donald H. Dembo, M.D.
Assistant Professor of Medicine
- Albert M. Antlitz, M.D.
Assistant Professor of Medicine
- Luis F. Gonzalez, M.D.
Instructor in Medicine
- David Oursler, M.D.
Instructor in Medicine
- Chris Papadopoulos, M.D.
Instructor in Medicine
- Elijah Saunders, M.D.
Instructor in Medicine
- John Messina, M.D.
Instructor in Medicine
- Louis E. Grenzer, M.D.
Instructor in Medicine
- James Pantano, M.D.
Fellow in Cardiology
- Benedict Termini, M.D.
Fellow in Cardiology
- Marc Colmer, M.D.
Fellow in Cardiology
- Chrysologue Gakuba, M.D.
Fellow in Cardiology
- Kioumarce Yazdani, M.D.
Fellow in Cardiology

EDUCATION

The Division of Cardiology is actively involved in teaching in all four years of the Medical School, House Staff training, Fellowship training, and Post-Graduate Work.

1. Undergraduate Program: Several lectures were given by members of the Division of Cardiology to the freshman class under the course heading "Freshman Correlative Medicine". This course serves as an introduction to the pathophysiology features of cardiovascular disease. In the sophomore year, Dr. Leonard Scherlis serves as Chairman of the Subject Systems Committee on Cardiovascular Disease. This system occupies two weeks of the second semester in the second year. It is a correlated program providing the student with the necessary basic science background prior to his clinical experience, including learning how to obtain and evaluate data from the history, physical examination, and laboratory. Attempts are made to present this as a correlated experience with members of the Division participating with members of the Departments of Pharmacology and Experimental Therapeutics, Pathology, Pediatrics, and Surgery. Several interdepartmental conferences are held during this time. In addition, cardiac auscultation is taught utilizing the PhonoCardioSimulator, a device which permits the duplication of various murmurs and heart sounds with variation in frequency, duration, and timing. Electronic stethophones are employed by the students. Patients also are presented utilizing this apparatus which permits the student to better correlate auscultatory phenomena and cardiovascular examination.

Several members of the Division served as Instructors in Physical Diagnosis for freshman and sophomore students.

During the assignment to the hospital wards, the junior students are in contact with the consultants and fellows in Cardiology and two members of the Division serve as Attending Physicians. Availability of cardiac catheterization data and other hemodynamic evaluations on the charts considerably enhances this program. The Coronary Care Unit is actively utilized for teaching students.

During the elective period of the senior year, several students participated in the Division of Cardiology activities for a period of one month. During this time, they attend conferences, work in the Adult Cardiac Clinic, attend the Coronary Care Unit rounds, and participate in graphic studies. Additional students participate in the program in Cardiology at Mercy Hospital, Maryland General Hospital, and the Loch Raven VA Hospital. A "self-

instruction room" is increasingly used by students, house officers, and fellows and includes projectors for slides, tape cassettes and TV cine tapes for cardiovascular learning.

2. House Staff Training: Senior Assistant Residents rotate through the Division of Cardiology on an elective basis. During the rotation, the residents participate actively in the cardiology program under the close supervision of members of the Division. This includes interpretation of electrocardiograms and other graphic studies, working in the Adult Cardiac Clinic, participating in conferences and having the opportunity to polish up on diagnostic and therapeutic skills. Members of the Division present conferences to the House Staff Conference and at Medical Grand Rounds.

3. Fellowship Training: During the past year, there have been five fellows in the Division of Cardiology, two of whom have been supported by the Heart Association of Maryland. Their rotation includes the Graphics Laboratory, Cardiac Catheterization, Cardiac Consultation, Cardiac Clinic, and Coronary Care Unit where they become familiar with diagnostic and investigative techniques including electrocardiography, spatial vectrocardiography, phonocardiography, fluoroscopy, right and left heart catheterizations, cine-angiocardiology, echocardiography, etc. They participate in the pre-operative evaluation of patients for cardiac surgery and in their operative and post-operative management. Formal conferences held on a regular basis include interdepartmental conference on Cardiovascular Surgery, review of Cardiac Catheterization and Graphics Data, Journal Club, Cardiac Pathology Conference, and Weekly conference on Cardiovascular Subjects.

4. Postgraduate Work: The Division of Cardiology has been actively involved with the In-Service Training Program of the University of Maryland School of Medicine since its inception. During the past years, four physicians who were in practice spent a month in the Division of Cardiology concentrating in an area of their own particular interest and usually included training in the Coronary Care Unit. This experience permitted them to exchange ideas and discuss specific problems with members of the Division. Members of the Division participated in postgraduate teaching at a course held in Annapolis by the University of Maryland School of Medicine and also in conferences held in other hospitals through the area.

RESEARCH

1. Evaluation of Spatial Vectorcardiography in Heart Disease: This technique involves the recording of electromotive forces of the heart by the display of the representation of electrical forces in

three planes. It is currently under increased investigation in coronary heart by correlation with coronary cineangiography, routine electrocardiography, and ventriculography. Preliminary results indicate a higher degree of sensitivity and specificity for vectrocardiography of a routine scalar electrocardiogram.

2. Beta Blocking Agents and Myocardial Function: The effect of sudden withdrawal of propranolol on systolic time intervals and catecholamine excretion in man is being determined. There has been increasing concern for the problems attendant with the sudden discontinuance of propranolol therapy. Partial support is provided by Ayerst and Co. (\$6,500) and the Heart Association of Maryland (\$10,000) Fellowship.

3. Myocardial Scanning in Patients Undergoing Coronary Bypass Surgery: Potassium-43 myocardial scanning as a predictor of improvement in patients undergoing surgery for coronary artery disease has been investigated in a combined program with the Division of Nuclear Medicine. These studies will be continued as well as other aspects of the role of nuclear medicine in cardiovascular disease. Heart Association of Maryland (\$9,500). Fellowship Support.

4. Echocardiography: Echocardiography provides a valuable tool for the evaluation of patients with many types of cardiovascular disease. Study of the movements of portions of the ventricular wall may provide a means for analyzing pre-excitation syndromes. A preliminary report of this technique in evaluation of the electrical-mechanical features of the Wolff-Parkinson-White Syndrome has been submitted for publication.

5. Psychological Features of Coronary Heart Disease: The effects of various stages of sleep on the incidence of cardiac arrhythmias is being studied in association with the Department of Psychiatry by Dr. James Lynch and Dr. Dave Paskewitz utilizing continuous EEG and ECG monitoring. Other emotional aspects of arrhythmias are also being investigated. Partial support for these studies is derived through the use of equipment made available in the Coronary Care Unit and Cardiac Catheterization Laboratory. The Leidy Foundation has made a Grant of \$12,000 and the Woman's Auxiliary of \$4,075 for equipment for patient care.

PUBLICATIONS

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2. B.A. Termini, L. Scherlis, R.T. Singleton, J. McLaughlin, M. Cooper. Myocardial scanning in patients undergoing coronary artery bypass surgery. *AMA Arch. Surg.* 109:648, 1974.
3. B.A. Termini, Y.C. Lee. Echocardiographic and electrocardiographic criteria for left atrial enlargement. *S. Med. J.* 68:161, 1975.
4. L. Scherlis (member of Steering Committee). Standards for Cardiopulmonary Resuscitation and Emergency Cardiac Care. National Research Council. *JAMA* 227:837, 1974.
5. L. Scherlis. Standards for Cardiopulmonary Resuscitation and Emergency Cardiac Care. *Emergency Medicine* 6:26, 1974.
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SUBMITTED FOR PUBLICATION

1. J. Lynch, K. Gimble, D. Paskewitz, S. Thomas. Review: Psychological Aspects of Cardiac Arrhythmias.
2. J. Pantano, Y.C. Lee. The effect of sudden withdrawal of propranolol on myocardial contractility.
3. J. Pantano, R.T. Singleton. Traumatic ventricular septal defect.
4. K.S. Gimbel. Echocardiographic studies in Wolf-Parkinson-White Syndrome.

SERVICE

The Division of Cardiology is responsible for cardiovascular laboratory procedures including the recording and interpretation of electrocardiograms, vectorcardiograms, phonocardiograms, echocardiograms, holter monitoring (12-24 hr. electrocardiographic recordings), graded exercise tests, and systolic time intervals.

Table 1 summarizes the percentage increase of each of the services performed by the Graphics Laboratory during 1974-75 compared with 1973-74. Despite the marked increase in the number of electrocardiograms over the past several years, these continue to be interpreted and every effort is made to have them placed on the chart on the same day in which the request is received and this mission is accomplished in well over 90% of all instances. The Exercise Stress Laboratory utilized a treadmill with appropriate monitoring provided, including rate meter, ST segment analyzer, and ST slope determinations. Echocardiography has proved to be an increasingly valuable tool for the evaluation of patients with many different types of heart disease. The increased utiliza-

Table 1. Increase in services performed by Graphics Laboratory

Hospital Diagnostic Services	Percent Increase 1974-1975 Over 1973-1974
Electrocardiograms	8%
Continuous Tapes	101%
Graded Exercise Tests	94%
Phonocardiograms	15%
Vectorcardiograms	24%
Echocardiograms	99%

tion of these many tests reflects the increased need for evaluating patients with proved or suspected heart disease in order to determine the degree of disability and the potential benefits of possible cardiovascular surgery.

Cardiac Catheterization Laboratory

The Cardiovascular Laboratory operates in conjunction with the Department of Radiology in maintaining an active diagnostic program. Selective cineangiography is performed during cardiac catheterization in nearly all of the patients who undergo study. The provision of a television screen makes this unit of greater use both as a diagnostic and teaching aid. The employment of cinetape makes available the results of the study within seconds and has markedly reduced the need for repeat catheterization because of inadequate data. During the past year, the studies performed in the Cardiac Catheterization Laboratory have continued to reflect the increased interest in evaluating patients with coronary heart disease.

Dr. Robert T. Singleton of the Division of Cardiology and Dr. Prasarn Nilprabhassorn of the Department of Radiology serve as Co-Directors of the Laboratory with the aid of Dr. Stephen Austin who is Assistant Director.

Adult Cardiac Clinic

The Outpatient Department Adult Cardiac Clinic meets on Monday and Friday afternoons under the direction of Miriam Cohen, M.D. During the past year there were 1,683 patient visits, an increase of 20% over the previous year when there were 1,504 patient visits. Attempts are made to give complete consultative service on one visit, including the recording and evaluation of electrocardiograms. This Clinic is actively used for both patient care and teaching. In addition, a Pacemaker Laboratory is part of the facilities of this Clinic.

Coronary Care Unit

The new Coronary Care Unit in the North Hospital opened in 1973 with a total of seven beds. The Coronary Care Unit is the hub for acute cardiac

care. The first Coronary Care Unit in Baltimore was on the 3rd medical floor. Dr. Jerry Salan was its first most able director followed by Dr. Fred Sutton and Dr. Mark Applefeld. In the Emergency Room two beds are used for acute cardiovascular emergencies. They are in an observation area in which monitors are directly linked by hard wire to the Coronary Care Unit so that the staff in the Unit provides on-going consultative and monitoring service. In addition, there are two rooms, each with two monitored beds, which are directly linked by hard wire to the Coronary Care Unit. These constitute a "step-down" area. In addition, the patients in this room may be ambulant with their electrocardiograms being sent by telemetry to the wall monitors in the room and thence by hard wire to the Coronary Care Unit. This allows evaluation of ambulatory cardiac patients. There is a treatment and procedure room in the Coronary Care Unit for cardioversion, electrophysiologic studies, insertion of pacemakers, or other procedures necessitating the use of a portable image intensifier. The Fellows in Cardiology are actively involved in patient care and evaluation in this area. During the past year, there were 618 admissions to the Coronary Care Unit. Dr. Kenneth Gimbel is Director of the Coronary Care Unit and conducts daily rounds in the Unit. He has held numerous teaching seminars for the staff and has given twelve lectures to the nursing staff of the Coronary Care Unit on heart disease.

COMMUNITY SERVICE

Members of the Division of Cardiology have been active within the community in programs which concern cardiovascular disease. They are active in many phases of activity of the American Heart Association and the Heart Association of Maryland. The nationwide program in Cardiopulmonary Resuscitation has been closely involved with the University of Maryland School of Medicine. The various manuals which are used by the American Heart Association and have been recommended by the National Research Council, National Academy of Science have included participation by members of the Division.

Dr. Leonard Scherlis serves as Chairman of the

Advisory and Review Heart Committee of the Maryland Regional Medical Program and is also a member of the Regional Advisory Group of the Maryland Regional Medical Program.

Dr. Leonard Scherlis is a member of the Editorial Board of the *American Heart Journal* and is a Consulting Editor on the Editorial Boards of the *American Journal of Medicine*, *Heart and Lung*, and *American Journal of Cardiology*. Dr. Kenneth Gimbel is Consultant in Cardiology to the Veteran's Administration Hospital in Perry Point, Maryland. Dr. Yu-Chen Lee serves as Cardiac Consultant for the Stroke Clinic which is under the auspices of the Department of Neurology. This Clinic meets once weekly and the relationship between stroke and cardiovascular disease continues to furnish an excellent common meeting ground between the Division of Cardiology and the Department of Neurology.

The volunteer and part-time faculty who participate in the activities of the Division of Cardiology play an important role in contributing to the overall program.

DIVISION OF DERMATOLOGY

FACULTY

Harry M. Robinson, Jr., M.D.
Professor and Head of Dermatology

Eugene S. Bereston, M.D.
Professor

Albert Shapiro, M.D.
Professor

Joan Raskin, M.D.
Associate Professor

Joseph W. Burnett, M.D.
Associate Professor

Stanley N. Yaffe, M.D.
Assistant Professor

M. Eugene Tudino, M.D.
Assistant Professor

Emmanuel H. Silverstein, M.D.
Assistant Professor

Bahram Sina, M.D.
Assistant Professor

Gary J. Calton, Ph.D.
Assistant Professor

Ronald Goldner, M.D.
Associate

W. Michael Gould, M.D.
Associate

John H. Stone, M.D.
Instructor

Carolyn J. Pass, M.D.
Instructor

Larry J. Warner, M.D.
Instructor

Irvin D. Wolfe, M.D.
Instructor

Mouta Dilaimy, M.D.
Instructor

Henry G. Sacks, M.D.
Chief Resident

Charles S. Samorodin, M.D.
Third-Year Resident

Frederick N. Pearson, M.D.
Third-Year Resident

Seyed A. Ghoti, M.D.
Third-Year Resident

Kenneth R. Warrick, M.D.
Second-Year Resident

Mohammed H. Talezadeh, M.D.
Second-Year Resident

Elizabeth Masten, M.D.
First-Year Resident

David L. Allender, M.D.
First-Year Resident

Hans van den Broek, M.D.
First-Year Resident

EDUCATION

Teaching at the Undergraduate Level

The philosophy of this division is to teach and practice dermatology by regarding the patient as a unit and to ensure that all patients admitted to the hospital or the outpatient department receive the best possible medical care. At both undergraduate and graduate levels, students and trainees are taught to correlate their knowledge of basic sciences with their clinical studies. The senior members of the staff and the senior residents participate actively in teaching dermatology to undergraduate students. The junior students, who receive 18 hours of clinical teaching in dermatology, are taught both at the University of Maryland Hospital and the Loch Raven Veterans Administration Hospital. The course consists of assigned reading, clinical demonstrations, and quiz seminars. In the fourth year, dermatology is offered as an elective. Students who choose to take dermatology during this period must spend a minimum of four weeks during which time they participate in all of the activities of the division. Instruction is given in the research laboratory, physicians' private offices, the outpatient clinic, the hospital, and in seminars with the residents.

Teaching at the Graduate Level

At the graduate level, residents and fellows are given instructions in the basic sciences as applied to dermatology and in clinical training. The University of Maryland Division of Dermatology is approved for the three years of training required by the American Board of Dermatology for certification. Residents and fellows are rotated for part of their clinical teaching through the University of Maryland Hospital, the Loch Raven Veterans Administration Hospital, and the Mercy Hospital. During the first year of training, basic studies and clinical dermatology are emphasized. There is some repetition of this during the second and third years of training. Weekly seminars in clinical dermatology, dermatopathology, physiolog-

ogy, microbiology, venereology, and immunology are given. In addition to the clinical training in the outpatient departments of the affiliated hospitals, the senior staff members utilize their private practices in the teaching program.

Dr. Harry M. Robinson, Jr. (Robby) had one of the largest consulting practices in dermatology in Baltimore. Robby was Maryland's leading teacher of dermatology for medical students, house officers and practicing physicians. His office patients were regularly used for teaching. Many devoted and highly qualified dermatologists gave the department much strength in this important field.

Drs. Albert Shapiro, Eugene Bereston, Joan Raskin, Ronald Goldner and Stanley Yaffe have been faithful Attending Physicians. For many years until his death in 1969, Dr. Francis A. Ellis contributed importantly to the Division, particularly in the field of dermal histopathology.

Once each week throughout the entire year dermatology grand rounds are held. All of the staff members participate by presenting patients from their private practices and the clinic. Once each week the Journal Club meets for two hours and at this time the residents, supervised by Dr. Joseph W. Burnett, present abstracts of the current literature in dermatology. Each trainee is encouraged to participate in some aspect of the research program during his third year of training.

At the postgraduate level, teaching members of the division collaborate with the Department of Continuing Education by the presentation of the lectures to various general practitioner groups, participate in refresher courses, and contribute to the educational program of the American Academy of Dermatology and Syphilology.

Each year the Division of Dermatology presents a three-day seminar on graduate education in dermatology. The participants in this course are members of the University of Maryland staff and outstanding teachers of dermatology from other schools throughout the country. This course has been well received and well attended.

RESEARCH

Grants

"Study of Fish Kill Diagnostic Techniques," Department of Commerce, \$48,550.

Research Projects

1. Purification of the cutaneous pain-producing and lethal fractions in the venom of the sea nettle, Portuguese Man-O-War and sea wasp. These investigations are also designed to define the epiphysiology by which human injury is produced.

2. Further definition of the toxicological properties of *Balocera* (sea anemone) mesenteric tentacles. The toxin present in these studies appears to be similar to that of the sea nettle.

3. Further purification of unusual antibodies present in staphylococcus epidermitis. This agent appears to selectively affect only sarcina organisms.

4. Attempts to further purify the ichthyotoxin in "red tide" microorganisms (*Gynadinium brevis*).

5. Studies on the nature of a keratinase present in Group A beta hemolytic streptococcal cutaneous infections.

6. Attempts to define the immunology of animal saproscopic infections.

7. Purification of molluscum contagiosum by pulse radiolabeling in density gradient centrifugation.

8. Methods of using fish kills as a signal for detection of early pollution in the Chesapeake Bay (see Grant above).

9. Studies of the toxic effect of systemically administered thiabendazole.

PUBLICATIONS

1. H.M. Robinson, Jr.: The Diagnosis and Treatment of Fungal Infections. Charles C. Thomas Co., Springfield, Ill., 1974.

2. H.M. Robinson Jr. and C.S. Samorodin: Thiabendazole induced toxic epidermal necrolysis. Arch. Derm. in press.

3. I.D. Wolfe, H.G. Sacks, C.S. Samorodin and H.M. Robinson, Jr.: Cutaneous protothecosis in an immunosuppressed host. Arch. Derm. in press.

4. M. Dilaimy: Pseudofolliculitis of the legs. Arch. Derm. in press.

5. J. Raskin: Treatment of Fungal Diseases of the Skin. Current Therapy, July, 1975.

6. H.M. Robinson, Jr.: Atopic Dermatitis. Current Prescribing, March, 1975.

7. H.G. Sacks, and I.D. Wolfe: Chronic lymphocytic leukemia complicated by bullous impetigo. Cutis, July, 1975.

8. R. Goldner: Tinea Versicolor. Current Prescribing. in press.

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10. J.W. Burnett and G.J. Calton: Fungus and yeast infections of the nails. pp. 185-190. The Diagnosis and Treatment of Fungus Infections. Ed: H. M. Robinson, Jr., Charles C. Thomas Co., Springfield, ILL.

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SERVICE

The University of Maryland dermatology clinic functions five days each week from 9:00 A.M. to 2:30 P.M. The annual patient load is in excess of 13,000 visits. Within the geographical confines of the dermatology division there is a mycology laboratory, histopathology laboratory and immunofluorescent laboratory. These are special service laboratories which provide diagnostic services for the outpatients and hospitalized patients in the University of Maryland Hospital. Physicians in the community are encouraged to send specimens to all of these laboratories. Such specimens are processed and a report sent to the referring physician.

During the past year Dr. Joseph W. Burnett, together with other members of the staff, organized the Atlantic Dermatological Conference. This was attended by 400 physicians who came from Toronto, Quebec, Montreal, New England, New York, New Jersey, Pennsylvania, Delaware, Washington, D.C. and Maryland.

In February 1975, Dr. Harry M. Robinson, Jr., Dr. Joseph W. Burnett, and Dr. Joan Raskin organized and conducted a postgraduate seminar in Caracas, Venezuela in collaboration with Dr. Jacinto Convit, Director of the Instituto Nacional

De Dermatologia.

Dr. Harry M. Robinson, Jr., Dr. Joseph W. Burnett, and Dr. Joan Raskin participated actively in the program of the American Academy of Dermatology Meeting which was held in Chicago in December 1974. Dr. Harry M. Robinson, Jr. has been nominated for the Clarke Finnerud Award by the American Academy of Dermatology.

At the annual meeting of the American Dermatological Association, held in May 1974 in Palm Beach, Florida, Dr. Harry M. Robinson, Jr., was elected Vice President. The National Program for Dermatology (NPD), a national planning group has named Dr. Harry M. Robinson, Jr., Dr. Joseph W. Burnett, and Dr. Ronald Goldner to key committees. Under the auspices of the American Academy of Dermatology the University of Maryland Division of Dermatology has organized an Alumni Group which meets annually. Dr. Harry Robinson, Jr. is the official representative of the American Academy of Dermatology to the Federal Drug Commission and is the national member of the SCOPE Committee of the U.S. Pharmacopoeia.

DIVISION OF ENDOCRINOLOGY AND METABOLISM

FACULTY

Thomas B. Connor, M.D.

*Professor of Medicine
Director, Division of Endocrinology
Director, Clinical Study Center*

John G. Wiswell, M.D.

Professor of Medicine

Luis G. Martin, M.D.

*Associate Professor of Medicine
Director, Outpatient Diabetic Clinic*

Alfonso H. Janoski, M.D.

Assistant Professor of Medicine

Bruce Hamilton, M.D.

*Assistant Professor of Medicine
Chief, Division of Endocrinology,
Veterans Administration Hospital*

Robert E. Stoner, M.D.

*Instructor in Medicine, Assistant
Director, Outpatient Endocrine Clinic*

George W. Lawrence, M.D.

Instructor in Medicine

John W. Clark, M.D.

Assistant in Medicine

Luis G. Rivera, M.D.

Instructor in Medicine

David M. Shearer, M.D.

Associate in Medicine

Francine M. Camitta, M.D.

Associate in Medicine

Isaam Cheikh, M.D.

Fellow

Satpal Singh Dang, M.D.

Fellow

Alejandro Tirado, M.D.

Fellow

EDUCATION

A. Undergraduate

Participation by the Division of Endocrinology in the undergraduate teaching program for medical students has been expanded. In collaboration with the Department of Biochemistry, Physiology, and Pharmacology, the Division has introduced freshman and sophomore students to clinical endocrine-metabolic disorders through lectures and demonstrations in correlative medicine seminars. Additionally, during the sophomore year, a total of 20 hours is given by Division staff members participating in the Endocrine Subject System teaching in collaboration with Departments of Pathology, Pharmacology, Social and Preventive Medicine, and Pediatrics. A detailed 100-page syllabus has been prepared by the Division staff and Department of Pediatrics for this course which has been well received by the students.

Each year selected sophomore and junior students have spent two-month summer elective periods in research or clinical training. During the past year, three students carried out specific laboratory projects under the direction of A. H. Janoski, M.D.:

Dr. Thomas B. Connor, Dr. John G. Wiswell and their staff provided the medical school and hospital with an outstanding program in endocrinology. Not only were they expert endocrinologists but, in addition, they trained many leading investigators and practicing specialists in this important field.

Mark Liu developed a sensitive and specific radioimmunoassay for progesterone and is currently utilizing the method in the study of hypertension in man. Mr. Liu continued this project on a part-time basis throughout the year.

Gregory Walker studied the production of 16 hydroxyprogesterone by monkey ovary cells in tissue culture.

Alex Sokil investigated adrenal regeneration hypertension in rats.

Dr. George Lawrence has been an active participant in various teaching sessions.

Senior students elected one-month rotations in the course in "Clinical Endocrinology" at University Hospital and its affiliates (Baltimore VA Hospital, York Hospital). Student participation in daily endocrine ward rounds, weekly conference, and outpatient clinics form the basis for the major course content. Students are given direct responsibility for the study and management of patients under supervision of staff members. The course is designed to provide the student with in-depth experience in clinical disorders in endocrinology and metabolism. Major emphasis is placed on the physiologic and biochemical basis for these disorders. These students also participate in on-going clinical research studies. Students electing the

University Hospital program, 7/1/74-6/30/75, were Gillian Karatinos, Jeffrey E. Feld, Sandra Lavoie, Gary Ruppert, and Gary Jacobs.

Each full-time staff member also participated (3 hours per week throughout the year) in the instruction of sophomore students in the principles and practical aspects of physical diagnosis in the course, "Introduction to Clinical Medicine".

B. Graduate

The major thrust of the graduate and postgraduate teaching program is directed at four levels—medical residents, full-time postdoctoral fellows, physicians in practice both locally and out-of-state at postgraduate teaching conferences, and thru participation in research meetings locally and nationally.

Increasing numbers of senior medical residents continue to rotate through the training program. Requests are received for training of residents from nonaffiliated hospitals in Baltimore, but, because of limitations of space and facilities, only a few of these outside requests can be fulfilled. Endocrine teaching ward rounds are held three times each week through the year for fellows, residents, students and staff. Weekly endocrine conferences, Journal Club, and a separate biweekly clinical conference in diabetes are also held during the academic year with participation by these same groups and with attendance as well by physicians from surrounding community hospitals. The staffs of these hospitals and at out-of-state institutions were also recipients of postgraduate instruction through lectures and conferences given by Division members on selected endocrine-metabolic topics during the year.

Three full-time postdoctoral fellows obtained more advanced training through participation in the clinical and research investigative training programs within the Division (see also Research Programs and Publications).

Senior Medical Residents rotating in Endocrinology were:

C. Cline, C. Merchant, R. Mellinger, A. Katz, W. Castillo, I. Cohen, T. Murphy, C. Nagle, J. Applefeld, Dr. Ruiz, C. Restivo, J. Witten, N. Haines, K. Lichtenfeld, S. Morrison, A. Metzger.

C. Other Faculty Teaching Responsibilities

Each full-time faculty member spent 9 to 18 weeks during the academic year attending on one of the general medical services in the instruction and supervision of junior and senior students and house staff in the Internal Medicine curriculum. Each full-time and part-time staff member also conducted endocrine consultation rounds for 4-12 weeks with undergraduate students, house staff, and fellows participating.

During the past year a joint Thyroid-Nuclear Medicine Conference was initiated. The confer-

ence was held biweekly under the direction of Doctors Wiswell and Malcolm Cooper. Current patients with thyroid disease were discussed in depth with staff members, fellows, residents, and students.

D. Establishment of Diabetes Education Program

Under the guidance of Luis G. Martin, M.D., Director of the Diabetic Clinic, and T. B. Connor, M.D., Director of Endocrinology and Metabolism, substantial progress has been made in establishing the nucleus of a Diabetes Education Center located in the Out-Patient Department of the North Hospital. In this activity, Doctor Martin has received major assistance from the Department of Nursing and Department of Nutrition, who have assigned nurse specialist and dietician respectively, to assist in the establishment of the Center.

The major goals of the program are threefold:

- (1) To establish a Diabetic Education Center in which intensive education of the patient is carried out with primary emphasis on the nature of the disease, its treatment, and prevention of complications.
- (2) Development of the team approach (physician, nurse, dietician, podiatrist, and other supporting personnel) to initiate and continue the patient's education and to evaluate his response to treatment.
- (3) To instruct medical students, physicians, and nurses in developing a more effective approach in the education of the diabetic patient.

This program was begun in June 1974. Patients are referred from both the in-patient and ambulatory services of the hospital. Approximately 15 to 20 patients attend each "course" which consists of five 2-hour sessions: two on diet management and three on the general principles and management of diabetes mellitus. The sessions are held every Tuesday morning for 5 successive weeks and are continued throughout the year. Attendance and patient acceptance have been excellent. Thus far 247 patients have completed the course. Because of the increased demand for this educational program a second identical series of courses will be offered beginning July 1975; these will be held every Wednesday morning. With the increased number of requests for patient participation in this program it is anticipated that by July 1976 the center will provide daily classes if additional personnel to carry out the program can be obtained.

To further assist in implementing this program the following has been accomplished in the past year:

- (1) Preparation of a booklet outlining the course content and containing the essen-

tials of the education program in readily understandable language.

- (2) Selection of audio-visual aid facilities.
- (3) Institution of a program for assessment of patient's knowledge of the diseases both before and after the patient has completed the program.
- (4) Standardization and coordination of the diabetic teaching program for nurses throughout the hospital.
- (5) Participation of medical students and residents in these instructional programs.

RESEARCH

B. P. Hamilton, M.D. (These studies were financed by VA Research Funds)

1. Laboratory Studies:

- a. The development and use of radioimmunoassays for vasopressin and neurophysin in the study of clinical disorders of water metabolism.
- b. A study of the iso-enzymes of alkaline phosphatase and the osteoblastic reaction to osteolytic bone metastases.

2. Clinical Studies:

- a. A trial of lithium carbonate and demeclocycline in the treatment of the syndrome of inappropriate ADH.
- b. A study of minoxidil in the treatment of refractory hypertension. (with Emilio Ramos, M.D.)
- c. Serial evaluation of cardiac status during the treatment of Paget's Disease of bone with mithramycin. (with Alfred F. Parisi, M.D.)
- d. Urinary excretion of acid in patients with cirrhosis of the liver.
- e. Treatment of certain inoperable malignant tumors with streptozotocin.
- f. Influence of muscular exercise and serum renin levels on the hemodynamic features of systemic arterial hypertension. (with Michael L. Fisher, M.D.)
- g. The use of systolic time intervals as an index of thyroid dysfunction. (with Alfred F. Parisi, M.D.)
- h. The study and follow-up of a large family with Sipple's Syndrome (Familial medullary carcinoma of the thyroid, parathyroid hyperplasia and pheochromocytoma)
- i. Trial of new β blocker in essential hypertension. (with Michael L. Fisher, M.D. and A. Janoski, M.D.)

A. H. Janoski, M.D.

Human Adrenal Steroids with Natriuretic Properties

During the years 1972 to 1975, substantial advances have been made in the broad research program entitled "Human Adrenal Steroids with Natriuretic Properties". This research is supported by NIH (U.S. Public Health Service) by a 3-year grant totaling \$90,000, awarded in April 1, 1972. During this period, rabbit antisera to 16 α hydroxyprogesterone, 17 α hydroxyprogesterone, and progesterone (steroids with natriuretic properties) were obtained via immunization and highly specific, sensitive radioimmunoassays were developed by this laboratory. Support for animal facilities was funded by the Bressler Research Fund. To supplement the studies, radioimmunoassays for plasma renin and urinary aldosterone were successfully developed. Clinical study protocols on the following have been completed:

1. Determination of the effects of adrenal stimulation and suppression on plasma 16 α hydroxyprogesterone (16-OHP) in normal subjects.
2. Determination of plasma 16-OHP in normal women during the follicular and luteal phases of the menstrual cycle.
3. Plasma 16-OHP concentrations in normal pregnancy and in medical complications of pregnancy.
4. Amniotic fluid concentrations of 16-OHP.
5. Evaluation of sodium depletion and high sodium intake on renin, aldosterone, and 16-OHP in normal subjects and patients with essential hypertension.

In all these studies the objective has been to delineate the relationship of the aforementioned steroids with natriuretic properties to sodium balance in man. This balance requires the interplay of the renin-aldosterone system and its effect on the renal tubules. Studies have been undertaken in pregnancy because of known elevation of aldosterone levels in the last trimester possibly related to antagonism by significantly increased levels of natriuretic. The relationship of these steroids to hypertension and the subgroups of renin levels is unknown. Findings to date reveal that 16-OHP increases in the third trimester of pregnancy, during the luteal phase of the menstrual cycle, is very high in umbilical cord blood and amniotic fluid, and is increased with adrenal stimulation and decreased with adrenal suppression. Knowledge of the physiologic role of 16-OHP is lacking but greater insight is being attained by the use of the highly specific radioimmunoassay developed at the University of Maryland Hospital.

Effect of Halofenate on Adrenal Secretion of Cortisol

Merck, Sharp and Dohme provided \$37,500 to study the effect of Halofenate on adrenal function; this is an ancillary investigation to the double-blind study of Halofenate in hyperliproteinemia using the same study patients. Whether or not Halofenate affects adrenal function is a necessary prerequisite for FDA approval of this valuable lipid-lowering drug. This laboratory has established that no specific adverse effects occur in adrenal function during long-term Halofenate usage.

Hypertension

With support from New England Nuclear Corporation (\$6,400) and NIH funds, 41 normal volunteers were evaluated to determine the physiologic autoregulation of the renin-angiotensin-aldosterone system during a control phase, after Lasix administration, after a low sodium intake, and after sodium loading. These studies confirmed the correlations between sodium excretion and urinary aldosterone excretion or concomitant plasma renin levels and provided a basis for a similar indepth evaluation of patients with primary hypertension in an ambulatory setting. Previous investigations necessitated the expense of hospitalization for such studies. To date, 30 patients with primary hypertension have been evaluated and 7 with low renin hypertension have been diagnosed. Studies are commencing on further evaluation of the low renin subgroup to determine the presence of mineralocorticoid.

In collaboration with Doctor Hamilton of the VA hospital in Baltimore and Sandoz Corporation (\$12,000) renin levels and urinary aldosterone concentrations are being evaluated in hypertension patients treated with a new and better adrenergic blocking agent.

Luis G. Martin, M.D.

1. Disappearance rates of plasma insulin after removal of islet cell tumor of the pancreas. Follow-up studies to determine the ability of the pancreas "to recover" its normal insulin production after chronic suppression by the islet cell tumor are in progress.

2. Effect of "calciuric" (Lasix) and "anticalciuric" (Hydrochlorothiazide) diuretic agents on the secretion and plasma levels of parathyroid hormone also is being conducted.

In Collaboration with T. B. Connor, M.D.

Studies in renal osteodystrophy—the effect of vitamin D analogues on the bone disease and serum parathyroid hormone levels. Preliminary results in two patients indicate impressive healing of bone with a concurrent reduction in serum

parathyroid hormone levels in both patients during the daily administration of 0.25 mg dihydroxycholesterol (DHT) and phosphate-binding gels over a 12- to 24-month period. These investigations are being extended to a larger group of patients and indicate that DHT is an effective agent in healing the skeletal lesions associated with uremic bone disease. Results suggest that DHT and related Vitamin D metabolites may be involved in the direct feedback regulation of parathyroid hormone secretion and this hypothesis is being tested.

J. G. Wiswell, M.D.

A method to measure triiodothyronine quantitatively in human serum has been developed employing a commercial kit produced by Abbott Laboratories, Inc. Sera have been analyzed from patients with various types of thyroid disorders. It is planned to continue these observations measuring serum triiodothyronine in patients receiving this compound, following I-131 therapy during antithyroid drug therapy, after TSH stimulation, after TRH stimulation, and during T3 suppression tests. These studies should provide further information on circulating T3 as well as T4 in various types of thyroid disorders.

Cliff Merchant, M.D., and T. B. Connor, M.D.

Studies of Circulating Vitamin D in Disorders of Calcium Metabolism

Levels of the 25-OH metabolite of vitamin D were measured in patients with disorders of calcium metabolism. Distinctly lower levels of 25-OH D have been found in patients with dietary-induced, vitamin D deficiency osteomalacia and in patients with hypocalcemia due to intestinal malabsorption syndrome (some of whom did not have osteomalacia). Appropriate therapy resulted in a return of serum 25-OH D to the normal range. Patients with untreated parathyroid disease had normal values. Additional studies are in progress, but these results indicate that measurements of 25-OH D in serum should be useful in evaluating vitamin D status in patients with disorders of calcium metabolism and in clarifying the role of vitamin D in the pathogenesis of hypocalcemic states in man. It is also apparent that low levels of 25-OH D in serum may occur in the absence of significant skeletal disease. The latter finding may be clarified by measurements of other vitamin D metabolites (such as 1,25-(OH)₂D) in serum and is under investigation. (supported in part by a grant from the Bressler Research Fund).

R. E. Stoner, M.D., Julio Freijanes, M.D., I. Cheikh, M.D., and T. B. Connor, M.D.

A Controlled Clinical Study of the Effects of Halofenate, Clofibrate and Placebo in Patients

with Elevated Serum Cholesterol and/or Triglyceride Levels.

This study was carried out between 1972 and 1975 and supported by a grant-in-aid from Merck, Sharp and Dohme. Its purpose was to assess the relative effectiveness of two lipid-lowering agents (Clofibrate and Halofenate) in correcting hyperlipidemia in human subjects. Patient participation in the study was completed in late June 1975. Data are in process of computer analysis and final results are not yet available.

In the first year of the study Halofenate and Clofibrate were compared with placebo. In the second year, only Halofenate- and Clofibrate-treated groups were compared. The double-blind technique for medication administration was maintained throughout the study. Hypercholesterolemia and/or hypertriglyceridemia were required for patients to enter the study. Forty-three patients completed the first year of study and 36 patients continued the study through the second year.

Preliminary analysis of the results indicates that Halofenate significantly lowered serum triglycerides in 95% of patients receiving the drug. Clofibrate reduced serum triglycerides significantly in 50% of patients the first year and in 77% of patients during the second year. Effect upon serum cholesterol was less impressive in all groups with significant reduction in serum cholesterol occurring in only 35% of both treated groups. For purposes of this study a 15% lowering of serum triglyceride concentration and a 10% lowering of serum cholesterol below pretreatment values was considered significant. Especially impressive was a lowering of serum uric acid (12.0 mg% from control values) in 65-70% of patients treated with Halofenate whereas Clofibrate was associated with similar reductions in serum uric acid in less than 10% patients. A modest reduction in fasting blood glucose also occurred in approximately 70% of patients receiving Halofenate whereas Clofibrate had no greater effect in lowering blood glucose than did placebo. This blood glucose lowering effect is currently undergoing thorough review to determine whether this might have been due to weight reduction, diet change, drug administration, or other factors. Both drugs were well tolerated and no major side reactions attributable to the drugs were observed.

PUBLICATIONS

1. J. Bilezikian, G. D. Aurbach, T. B. Connor, W. N. Pachas, R. Apetkar, S. A. Wells, J. Freijanes, and J. L. Decker: Pseudo-gout after parathyroidectomy. *Lancet* 1:445-447, 1973.
2. T. B. Connor, J. Freijanes, R. E. Stoner, L. Martin, J. Jowsey: Generalized osteosclerosis in

- primary hyperparathyroidism. *Trans American Clinical Climatological Assoc.* 85:185-201, 1973.
3. G. D. Lawrence, R. G. Loeffler, L. G. Martin, and T. B. Connor: Immobilization hypercalcemia: Some new aspects of diagnosis and treatment. *J. Bone Joint Surg.* 55-A:87-94, 1973.
 4. A. F. Parisi, B. P. Hamilton, and E. L. Mazzaferri: The heart as a target organ in thyrotoxicosis: Assessment with systolic time intervals. *Clin Res* 22, 294A, 1974.
 5. A. F. Parisi, B. P. Hamilton, and C. N. Thomas, et al: The short cardiac pre-ejection period: An index to thyrotoxicosis. *Circulation* 49:900-904, 1974.
 6. S. Ariyan, L. R. Farber, B. P. Hamilton, et al: Pseudo-hyperparathyroidism in head and neck tumors. *Cancer* 33:159-166, 1974.
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 8. A. H. Janoski, K. Schultz, and T. B. Connor: Radioimmunoassay of plasma 16- α hydroxyprogesterone in man. *Jour. Steroid Biochem.* 5:306, 1974.
 9. G. D. Lawrence, E. Bravo, and F. C. Bartter: Hyperpigmentation after adrenalectomy for primary aldosteronism: *Arch Int. Med.* 134:734-737, 1974.
 10. B. P. Hamilton, L. Landsberg, R. J. Levine: Sipple's syndrome: Familial medullary carcinoma of the thyroid, hyperparathyroidism and epinephrinesecreting pheochromocytoma. *Endocrinology* 94, Suppl. A-244, 1974.
 11. B. P. Hamilton: Presence of neurophysin proteins in tumors associated with the syndrome of inappropriate ADH secretion. *Ann. Acad. Sc.* 248:153-156, 1975.
 12. I. Cheikh, B. P. Hamilton, T. H. Hsu, and J. G. Wiswell: Response of TSH and prolactin to TRH in Klinefelter's syndrome. *Endocrinology* 96, Suppl. A-153, 1975, (Abstract).
 13. N. MacLaren, S. W. Huang, G. Taylor, B. P. Hamilton, M. Cornblath: Circulating antibodies and cytotoxic lymphocytes to cultured human insulinoma in insulin-dependent diabetes. *Diabetes.* 24 Suppl. 2A, 401, 1975 (Abstract).
 14. G. D. Lawrence: Comments and corrections: Therapy of fluid and electrolyte disorders. *Ann. Int. Med.* 82:845-846, June 1975.
 15. A. H. Janoski, K. E. Schultz: 16-a hydroxyprogesterone in human pregnancy. Maternal plasma and umbilical cord blood concentrations by radioimmunoassay. *Clinical Research*, Col. 238A, 1975.
 16. A. H. Janoski, M. A. Mattare, and K. E. Schultz: Plasma and urinary concentrations of unconjugated 16a-hydroxyprogesterone during the human menstrual cycle. (Abstract #410-Program of Endocrine Society—N.Y., N.Y., June 1975).
 17. R. A. Kerr, B. P. Hamilton, B. Rothfeld: The utility of a renin suppression test with propranolol in the evaluation of essential hypertension. (Abstract). *J. Clin. Pharm.* 1975, in press.
 18. S. Concha, B. P. Hamilton, J. C. Millan, J. D. McQueen: Symptomatic Rathke's cleft cyst with amyloid stroma. *J. Neurol. Neurol. Psych.* 1975, in press.

SERVICE

Specialty Clinics

The Division is responsible for the operation of two outpatient clinics to which consultations are referred. The Endocrine Clinic is held every Monday afternoon and a Diabetic Clinic every Thursday morning. These clinics represent major teaching and training areas where fellows, residents, and students participate regularly. At each clinic session five or six members of the Division are present to assist in the supervision of the trainees and in rendering the consultations. The numbers of patient visits recorded in these clinics during the past year are: Endocrine Clinic, 1140 patient visits; Diabetic Clinic, 1456 patient visits. Additionally each staff member is also responsible for consultations on private patients, both ambulatory and inpatients.

Endocrine Laboratory Diagnostic Services

The endocrine laboratories have continued to provide endocrine diagnostic assays as requested by staff physicians. These assays are not performed elsewhere within this institution. During the past year the number and type of biochemical assays performed as a laboratory service for patients by the endocrine laboratories were as follows:

Urine-free cortisol	105
Plasma cortisol	243
Urinary aldosterone	71
Quantitative VMA (urine)	368
Peptide hormone assays	
TSH	280
Growth Hormone	188
Insulin	182

Parathyroid Hormone	316
Other (Precision serum calcium, magnesium, urinary oxalate, etc.)	154

DIVISION OF GASTROENTEROLOGY FACULTY

Frank L. Iber, M.D.
Professor of Medicine
Chief, Division of Gastroenterology

Richard A. Baum, M.D.
Assistant Professor of Medicine

Ethelred E. Carter, M.D.
Assistant Professor of Medicine

Renan J. Dureza, M.D.
Assistant Professor of Medicine

Sohrad Mobarhan, M.D.
Assistant Professor of Medicine

Richard E. Sampliner, M.D.
Assistant Professor of Medicine

Safwat Absood, M.D.
Fellow

Sudhir Dutta, M.D.
Fellow

Robert Gross, M.D.
Fellow

Frank Hamilton, M.D.
Fellow

George Galifianakis, M.D.
Fellow

Shawki Malek, M.D.
Fellow

Mahin Shamszad, M.D.
Fellow

Elaine Richman
Research Associate

OPERATING PLAN AND IDEOLOGY OF THE DIVISION

High-quality patient care to private, ward, in- and outpatients bringing the best of medical science to them was the first goal of the Division. Education to undergraduate medical students, house-staff, and fellows and postgraduate education for the community physicians was our second goal. Conducting clinical research was our third goal. Progress was made on all fronts. To facilitate patient care, all personnel in the Division were rotated between the University Hospital, the Loch Raven and Fort Howard VA programs and, occasionally, carried out responsibilities for our patients at Montebello, U.S. Public Health, and the Good Samaritan Hospital.

EDUCATION

Undergraduate—A continued successful Subject Systems Program in Gastroenterology under the chairmanship of Dr. Richard E. Sampliner was offered and well received by the second-year medi-

cal students. Some ten subjects were explored in depth and individual seminars for 16 groups of 20 students each were offered on two afternoons and were popular. At least 35 junior and senior students took a clinic elective in GI disease for one or more months. Our staff participated in approximately 30 teaching sessions in conjunction with other departments in GI, alcoholism, liver disease, and physiology. Two students received Dean's Summer Fellowships in our Department. Four of our staff conducted physical diagnosis training for eight students, two others conducted the first-year training course in physical diagnosis, and all six of our senior staff and all seven fellows undertook senior students preceptorship for one or more months in the outpatient clinics.

Dr. Richard Baum and Dr. Richard Sampliner were particularly active in the teaching of students and house officers.

Graduate—The Divisional senior staff attended on service in general medicine an average of 11 weeks each and on GI service an average of six months each. Nineteen residents and interns took a GI rotation and at least seven residents have chosen further training in GI. The GI senior staff rounded three to five times weekly at each of the three hospitals and a senior staff member was in attendance in the three-hour outpatient clinic sessions held twice weekly. In addition, Dr. Frank L. Iber rounded weekly at each Loch Raven VA and University Hospitals and every other week at Fort Howard VA Hospital. Seven part-time faculty members aided in the operation of our outpatient clinic. GI Grand Rounds were held weekly with stimulating guest speakers. Regularly scheduled activities also included Pathology, Radiology, and GI Journal Clubs which were held twice monthly and a weekly Liver Conference in conjunction with Dr. Willis Maddrey of Johns Hopkins. GI Grand Rounds were held three times at Maryland General on the invitation of Dr. Howard Raskin.

The GI Fellowship Program has increased in popularity attracting far more applicants than can be accommodated. Excellent candidates have been selected already for 1976.

Visitors of international stature were brought to the medical school to present rounds and conferences. These included Professor Hyman Zimmerman of Washington, D.C., Dr. Harold Farmer of the Cleveland Clinic, Professor Hans Popper of Mt. Sinai in New York, Dr. John Yardley of Johns Hopkins and Dr. Charles Whitfield of Springfield, Illinois. Others brought here with the assistance of Dr. Felix Heald were Donald Ostrow of University of Pennsylvania and Dr. James Melby of Boston University.

The citywide Liver Seminars were held and attended six times this year.

Postgraduate—A highly successful Gastroenterology course was given by Maryland faculty exclusively and was attended by 75 practitioners. It was considered sufficiently worthwhile to make it an annual affair. Our entire staff participated in six

other Maryland postgraduate courses. A four-day postgraduate course in Puerto Rico for 11 physicians was given under the auspices of the Office of Postgraduate Education.

RESEARCH

Many programs have developed momentum and definite accomplishments have been documented.

1. Pentillamine in the prevention of alcoholic cirrhosis. 32 of 40 patients now entered. To be analyzed when patients are completed.

2. Glutathione levels in erythrocytes of alcoholics in conjunction with Dr. J. Hsu of Loch Raven. Preliminary research completed, abstract written, and more biochemistry needed in depth.

3. Fibrinogen turnover in liver disease in conjunction with Dr. Malcolm Cooper. 17 patients completed.

4. The metabolism of sulphur-35-labeled disulfiram in normals and in patients with liver disease. 14 patients studied and impressive differences are present. Abstract written on this work.

The persistence of disulfiram effect after cessation of ingestion in patient with normal and damaged livers. Abstract written showing differences.

A test for compliance with disulfiram dosage using a simple breath test (summer student project with Ms. Susan Paulson Miller.)

5. The liver status in the asymptomatic carrier of the Hepatitis B antigen. 55 patients studied, 23 biopsied, and an abstract written.

6. The metabolism of acetaminophen (Tylenol) in patients with normal and abnormal livers and with concurrent administration of alcohol. Abstract written.

7. The esophageal and rectal sphincter function in patients with peripheral neuritis.

8. A longitudinal look at the natural history of alcoholic hepatitis in Baltimore.

PUBLICATIONS

1. J.R. Malagelada, F.L. Iber and W.G. Linscheer: The origin of fat in chylous ascites of patients with liver cirrhosis. *Gastroent.* 67:878-886, 1974.
2. F.L. Iber: Relative rates of metabolism, MCT, LCT and ethanol in man. *Supplementa 17, Zeitschrift fur Ernährungswissenschaft.* Dr. Dietrich Steinkopff, Seite 9-16, Verlag Darmstadt, 1974.
3. R. Sampliner, S. Mobarhan, D.M. King, M. Greenberg, F.L. Iber and N. Grace: Use of blood component therapy for gastrointestinal bleeding in patients with cirrhosis of the liver. *The Johns Hopkins Medical Journal* 136:163-167, 1975.
4. V. Mosher and F.L. Iber: Comparison of a 30 day inpatients alcoholism program with a 9 day inpatient program: Results of a randomized trial. *Quarterly Journal Studies on Alcohol.* In press, 1975.

5. J. Soterakis and F.L. Iber: Increased rate of alcohol removal from blood with oral fructose and sucrose. *Amer. J. Clin. Nutr.* 28:254-257, 1975.
6. F.L. Iber: Book Chapter—Normal and pathologic physiology of the liver. Chapter 28. In: *Pathologic Physiology—Mechanisms of Disease.* Sodeman and Sodeman pp. 790-817, W.B. Saunders Company, 1974.
7. M. Cooper and F.L. Iber: Surgical treatment of massive obesity: Its complications and changes for the gastroenterologist. *Gastroenterology.* Submitted for publication October 1974.
8. R.H. Resnick, F.L. Iber, A.M. Isihara, T.C. Chalmers, H. Zimmerman and the Boston Inter-Hospital Liver Group: A controlled study of the therapeutic of portacaval shunt. *Gastroenterology* 67:843-857, 1974.
9. F.L. Iber: Treatment in alcoholics. Paper presented at Tufts University, Boston, Dec. 6, 1974. In press.
10. F.L. Iber: Description of a model for community detoxification of alcoholics utilizing hospital and physician back-up. Paper presented at the North American Conference on Alcohol and Drug Abuse, Dec. 11, 1974, San Francisco. In press.
11. R.H. Sampliner and F.L. Iber: Diphenylhydantoin control of alcohol withdrawal seizures: Results of a controlled study. *JAMA* 230:1430-1432, 1974.
12. R.H. Resnick, J. Boitnott, F.L. Iber, H. Makopur and J.J. Cerdá: Preliminary observations of d-pencillamine therapy in acute alcoholic liver disease. *Digestion* 11: 257-265, 1974.
13. F.L. Iber: Managing alcoholism: Nutrition is a start. *Consultant*, April 1975.
14. F.L. Iber: Gastrointestinal and nutritional aspects of alcoholism. *Consultant.* Submitted July 1, 1974.
15. F.L. Iber: Putting the liver in clearer focus. *Modern Medicine* pp. 36-40, October 28, 1974.

ABSTRACTS

1. M. Shamzad, S.K. Dutta, S. Krause and F.L. Iber: Metabolism of 35S-Disulfiram in normals and in patients with liver disease. *Gastroenterology*, Jan, 14, 1975.
2. F.A. Hamilton and F.L. Iber: Persistence and severity of alcohol-disulfiram reaction after discontinuation of drug in patients with liver disease. *Gastroenterology.* In press.

SERVICE

Senior faculty and fellows shared responsibility at all times for patient care at the University, at Baltimore VA, and Ft. Howard Hospitals. This as-

sured adequate consultative assistance and senior staff backup consultations usually were seen the same day they were received. Equality of care of ward and private patients was achieved. Endoscopic and biopsy procedures increased about 33 percent over the previous year. Colonoscopy and polyp resection, pancreatic and hepatic duct cannulation via the duodenoscope, and percutaneous cholangiography increased in approximately 3000 fiberoptic procedures and 1500 biopsies were performed by our group during the year. Outpatient clinics held twice weekly and averaging 45 patients each session are operating smoothly.

Service laboratories at both University Hospital and Baltimore VA Hospital are available but are underutilized. Sigmoidoscopic facilities and instruction are widely used and use is increasing. Consultative and teaching on all GI aspects including radiology and biopsies are widely utilized and increasing. Emergency services are available and widely used with over 300 procedures being conducted out of regular hours during the year.

Dr. Richard A. Baum, Medical Director of the Baltimore Comprehensive Public Inebriates Project, brought this organization from a demoralized nearly collapsing unit to a fully occupied first rate detoxification unit—a model for the East Coast.

DIVISION OF HEMATOLOGY

FACULTY

Rouben M. Jiji, M.D.

Associate Professor of Medicine

Sheldon Amsel, M.D.

Assistant Professor of Medicine

R. Ben Dawson, Jr., M.D.

Assistant Professor of Medicine and Pathology, Director, Blood Bank and Transfusion Service, Blood Research Laboratory and Baltimore Rh Typing Laboratory

Meyer R. Heyman, M.D.

Fellow

Later in 1978 the Division of Hematology was reorganized and integrated into the program of the Baltimore Cancer Center. Dr. Peter Wiernik was appointed head.

EDUCATION

On the undergraduate level, the Division is responsible for the teaching of hematology to the first- and second-year students in the School of Medicine and to the students in the School of Medical Technology; the latter course is given twice each year. In addition, hematology is taught during the clinical years by means of formal and informal case conferences. Hematology was chosen as an elective by 3 students during the past year.

Weekly hematologic conferences are given to the house officers. Twice each week ward rounds are conducted and 11 medical residents spend one or two months on the service. An informal problem-solving conference on hematologic disorders is held each week in the Hematology Clinic. Tri-weekly review of bone marrow examination and interpretation is held for residents in Clinical Pathology who rotate through Hematology.

At the postgraduate level, regular conferences, both formal and informal, are conducted at South Baltimore General, Mercy, Montebello State and Loch Raven VA Hospitals. A postgraduate seminar was held on "Recent Advances in Hematology" which was well attended and received.

In 1978, Dr. Peter H. Wiernik, Acting Director of the Baltimore Cancer Research Program, accepted the directorship of the Division of Hematology/Oncology and initiated an intensive program of teaching, research and patient care for medical students, house officers and fellows in July, 1979. Doctor Wiernik is a recognized authority in the field of medical oncology and hematology having devoted his career to this important medical discipline. He is the author of numerous investigative studies.

RESEARCH

Research interests of the faculty encompass a broad range of applied hematology problems. Dr. Jiji is conducting studies on the ultrastructure of cells in sideroblastic anemia, on primary refractory anemia and on drug-induced blood dyscrasias. Dr. Amsel is joining Dr. Samuel Charache of the Johns Hopkins University in a cooperative study of sickle cell disease. Dr. Dawson has several projects mainly concerned with blood component preservations. He is supervising Steve Hilbert, a doctorate candidate, whose research in platelet preservation is supported by a grant of \$5,000 from the Baltimore Rh Typing Laboratory. An additional \$8,300 grant from this Laboratory is being used to support studies on blood preservation. The Department of Defense has granted \$43,223 for the study of blood preservation and hemoglobin function.

Dr. Jiji in collaboration with Doctors Barrett and Valigorsky prepared an exhibit for the American Society of Clinical Pathology meeting entitled "Electron Microscopy of Human Bone Marrow".

PUBLICATIONS

1. B. F. Trump, L. A. Barrett, J. M. Valigorsky, R. M. Jiji: Ultrastructure in sideroblastic anemia. Submitted for publication.

2. A. G. Smith, R. M. Jiji: Cutaneous infection due to a rough variant of *Mycobacterium marinum*. A. J. Clin. Path. 64:263-270, 1975.
3. R. M. Jiji: Tn activation with acquired A-like antigen associated with "ringed" sideroblasts. Abstract presented at XV Congress of the International Society of Haematology, Israel, Sept., 1974.
4. S. Amsel, J. S. Nabembezi: Two-year survey of hematologic malignancies in Uganda. J. Natl. Cancer Inst. 52:1397, 1974.
5. S. Amsel, E. C. T. Ssebabi, E. Nzaro: Red cell autoantibodies in Ugandan sera. Clin. Exp. Immun. 16:657, 1974.
6. S. Amsel, F. Bijlsma: Histiocytic medullary reticulosis. Trop. Geogr. Med. 26:31, 1974.
7. S. Amsel: Treatment of acute lymphocytic leukemia in Uganda. Accepted for publication.
8. S. Amsel: Polymphocytic leukemia in Uganda. E. African Med. J. Accepted for publication.
9. R. B. Dawson, F. R. Camp, N. F. Conte: Blood preservation solutions. XI. Raising the pH to improve red cell hemoglobin function. USAMRL Report No. 975, Military Med. 139:301, 1974.
10. L. A. Barrett, R. B. Dawson: Avian erythrocyte development: Microtubules and the formation of the disc shape. Dev. Biol. 36:72, 1974.
11. F. R. Camp, R. B. Dawson: Prevention of injury to multiple casualties requiring resuscitation following blood loss. Military Med. 139:893, 1974.
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13. R. B. Dawson: Hemoglobin function in stored blood: Combined use of metabolic regulators and nutrients: I. Pyruvate and DHA (Dihydroxyacetone). Clin. Research 22:700a, 1974.
14. R. B. Dawson: Hemoglobin function in stored blood: Combined use of metabolic regulators and nutrients: II. Inosine and methylene blue. Clin. Research 22:701a, 1974.
15. R. B. Dawson: Blood storage: High phosphate concentrations for red cell ATP and 2,3-DPG maintenance in CPD-adenine-inosine. Submitted to AABB Annual Mtg. Transfusion, in press.
16. R. B. Dawson: Blood storage: Improved maintenance of 2,3-DPG during middle and late parts of prolonged blood preservation in CPD-adenine. Submitted to AABB Annual Mtg. Transfusion, in press.
17. R. B. Dawson: Blood storage: 2,3-DPG maintenance for six weeks in a CPD-adenine-inosine preservative without methylene blue. Submitted to AABB Annual Mtg. Transfusion, in press.
18. R. B. Dawson: Frozen preservation of red blood cells. AABB Tech. Manual, 6th ed., pp 220-224, 1974.
19. R. B. Dawson: Editor, Transfusion Reactions, AABB, Washington, D.C., 1974.
20. R. B. Dawson: Editor, Transfusion Therapy, AABB, Washington, D.C., 1974.
21. R. B. Dawson: New concepts in transfusion therapy: Guidelines for the technologist and medical director. 18th Annual Post-Grad. Medical Technology, Kam Loops, British Columbia, May, 1975.
22. R. B. Dawson: Modern red cell preservation: Studies and concepts. 2nd. Inter. Symp. on Hospital and Transfusion Technology, Paris, France, 1975.
23. R. R. Camp, R. B. Dawson: Transfusion of whole blood in patients in shock, acute fluid replacement in the therapy of shock. Stratton Intercontinental Book Corp., N.Y., 1974.
24. R. B. Dawson: Blood preservation: Using metabolic regulators and nutrients. I. Pyruvate and DHA (Dihydroxyacetone). Military Medicine.
25. R. B. Dawson: Blood preservation: XVI. Packed red cell storage in CPD-adenine. Transfusion.
26. R. B. Dawson, S. Chan-Shu, M. Potts: Blood preservation: Rejuvenation of outdated red cells for immediate oxygen transport upon transfusion. Submitted to Inter. Soc. Blood Transfusion, July 1975.
27. P. A. Wright, R. L. Passamaneck, R. B. Dawson: The blood bank's newest headache—the major trauma center. Submitted to Inter. Soc. Blood Transfusion, July 1975.
28. R. L. Passamaneck, D. M. Harmening, M. Taghizadeh, P. A. Wright, R. B. Dawson: Preparing packed red cells from stored whole blood: Mixing improves quality. Submitted to Inter. Soc. Blood Transfusion, July 1975.
29. R. B. Dawson: Blood preservation: Using metabolic regulators and nutrients. II. Inosine and methylene blue. Submitted to ASCP.
30. R. B. Dawson, F. R. Camp: Blood storage XIV Adenine maintenance of ATP in a preservative with high pH (to maintain 2,3-DPG for hemoglobin function). Submitted to J. Lab. Clin. Med.
31. R. B. Dawson et al: Hemoglobin function in

stored blood. XXVII. Maintenance of red cell 2,3-DPG (function) and ATP (viability) for six weeks in CPD-adenine-inosine-methylene blue. Submitted to Vox Sanguinis.

SERVICE

Service responsibilities of the Division are divided into two areas: 1) clinical patient care, both inpatient and outpatient, and 2) supervision of clinical laboratories related to hematology and blood banking. The diagnostic responsibilities to hematologic problems are related primarily to bone marrow examinations and interpretations. During the year, 2953 outpatient visits were made to the hematology Clinic, 21 private patients were admitted to the hospital and 322 ward consultations in hematology were made. Members of the Division performed 260 bone marrow examinations.

Participation at all community levels in professional organizations and committees by members of the Division is considerable. The Division cooperated with the National Hemophilia Foundation by sponsoring a full-day site visit by the director and members of the Foundation to the University of Maryland Hospital in April. The objectives of this visit were to assess quality of care and care delivery so that recommendations might be made to upgrade the quality of care and to develop a more effective care delivery system on a national level.

DIVISION OF INFECTIOUS DISEASES

FACULTY

Richard B. Hornick, M.D.
Professor of Medicine, Director

Merrill J. Snyder, Ph.D.
*Associate Professor of Medicine,
Associate Director*

Frank M. Calia, M.D.
Associate Professor of Medicine

Harold Standiford, M.D.
Assistant Professor of Medicine

William E. Woodward, M.D.
Assistant Professor of Medicine

Myron M. Levine, M.D.
Assistant Professor of Medicine

Yasushi Togo, M.D.
Assistant Professor of Medicine

Joseph P. Libonati, Ph.D.
Assistant Professor of Medicine

Ellen R. Wald, M.D.
Assistant Professor of Medicine

Lorraine G. Fiset, Ph.D.
Assistant Professor of Medicine

Ronnie Kluge, M.D.
Assistant Professor of Medicine

Robert H. Gilman, M.D.
Assistant Professor of Medicine

Ellis S. Caplan, M.D.
Fellow

Trenton Reubuch, M.D.
Fellow

John McConville, M.D.
Fellow

Celeste Woodward, M.D.
Fellow

Carlos Lopez, M.D.
Fellow

EDUCATION

Educational activities of this Division are provided primarily by our clinical teaching program. Many senior students elect Infectious Diseases as a clinical service rotation either at the University of Maryland Hospital or the Veterans Administration Hospital. A smaller number select the service at Mercy Hospital under the direction of Dr. Jay Goodman. The students are expected to work up all infectious disease consultations, attend teaching ward rounds with the attending physician or fellow, attend the weekly infectious disease clinical and research conferences and present a brief discussion of a selected topic at the end of their rotation.

Members of the Division also teach in other courses—physical diagnosis, bacteriology, biochemistry and pharmacology.

One postgraduate course was held this past year. In May, a course sponsored by the American College of Physicians on Clinical Immunology was held in Baltimore. This Division was responsible for all arrangements carried out by Dr. Merrill J. Snyder and faculty members were involved in the scientific portion of the program. Numerous other lectures were given in other postgraduate courses.

Dr. Stephen C. Schimpff, Head of the Division of Infectious Diseases of the Baltimore Cancer Research Program, succeeded Dr. Richard B. Hornick as Head of the Division of Infectious Diseases of the Department. In addition to his excellent clinical ability, Doctor Schimpff has made innovative and important contributions in the field of infectious diseases which occur in patients with malignant disease under immune suppression. The active fellowship and vigorous research programs continue which is responsible for about 20 per cent of the total external grant support for the entire medical center.

Dr. John (Jack) Warren joined the faculty as a geographical full-time appointee (Harvard, 1970) and Dr. Ellis Caplan (University of Maryland, 1968) was appointed Assistant Professor of Medicine. Doctor Caplan is Director of the Program in Infectious Diseases of

the Maryland Institute for Emergency Medicine Service Systems. Dr. James H. Tenney, appointed as Hospital Epidemiologist in 1977, conducts work on nosocomial infections and participates in the educational and research activities of the Division of Infectious Diseases.

Dr. Harold C. Standiford, Associate Professor of Medicine, actively pursues work on sensitivity reactions of pathogenic microbes to antibiotics. He has organized several successful postgraduate conferences in internal medicine in collaboration with Doctors Calia and Woodward.

Dr. David Nalin, co-recipient of the Department of Medicine Award for Research by a junior faculty member in 1979, was appointed Director of the International Center for Medical Research in Lahore, Pakistan, in August, 1979. In spite of closure of all international centers for research under NIH sponsorship, the University of Maryland Pakistan Medical Research Center in Lahore was funded for two additional years, 1980 to 1982.

Dr. Yasushi Togo contributed faithfully and well for many years. He was particularly effective in developing a tissue cell culture system that was vitally important for support of vaccine field studies, especially for measles and other viruses.

Dr. Myron M. Levine effectively directs the productive and unique program on vaccine development in the Division of Infectious Diseases. Dr. Robert E. Black and Dr. Mary Lou Clements joined this active division which is making significant and innovative contributions to the understanding of defense mechanisms and means of control of enteric infections.

In January, 1979, Dr. Richard B. Hornick resigned his position as Director of the Division to become Chairman of the Department of Medicine at the University of Rochester Medical Center. For two decades, Doctor Hornick directed a vigorous research program designed to better understand pathogenesis, therapy and control of enteric infections, exanthematic diseases and other disorders. He excelled as a teacher and participated in all school and hospital functions. A dinner was held in his honor at the Engineers' Club on December 17, 1978. Tribute was paid him by Dr. Wilson H. Elkins, President, University of Maryland, Sister Mary Thomas, Director of Mercy Hospital, Chancellor Albin O. Kuhn, Dean John M. Dennis, Mr. Robert Russell and others. In addition to a silver plate and swan lamp, Doctor Hornick was presented a captain's chair suitably inscribed:

With grateful appreciation and affection
In recognition of his exemplary leadership
As a teacher and investigator of
Infectious Diseases and his high qualities
as a gentleman.

RESEARCH

The Division has been involved in clinical investigations involving vaccine and drug evaluations for a

number of years. One of our major programs has involved volunteers and has been conducted at the Maryland House of Correction. In this area studies on the pathogenesis and control of typhoid fever, cholera, shigellosis, *E. coli* diarrhea, malaria, influenza and the common cold have been conducted with the help of willing prisoner volunteers. In the past one and one-half years, the criticism of this program has intensified and has required much time and effort to present objectively facts about the program in order to rebut a great deal of uninformed emotional outpourings. In addition, a suit has been filed by the American Civil Liberties Union on behalf of eight inmates which may decide whether inmates have a right to participate in medical experimentation. Despite the harassment and extra work associated with this lawsuit, significant progress has been made in these volunteer studies. Oral vaccines seem to be feasible for typhoid and cholera based on ongoing studies in volunteers. Mutant, live attenuated organisms have been given by mouth to volunteers and subsequently volunteers have been challenged. These studies indicate excellent protection from disease and shedding of the pathogen in the stool. A vaccine for malaria has been evaluated and for the first time an effective vaccine has been developed. A number of potential antiviral drugs have been tested but each has been shown to be of little clinical benefit to volunteers. Much additional work is needed before antiviral drugs will become reality.

In addition to the ongoing studies at the Maryland House of Correction, a new volunteer facility was established in the past year which is housed in the University of Maryland Hospital. This unit is supported by the National Institutes of Health in order to carry out (with research workers at the NIH) collaborative studies of viral and mycoplasmal vaccines. Volunteers are obtained through newspaper advertisements and thus both sexes participate, a real research advantage not available in a prison unit. Many interesting sociological and psychological events have occurred since this unit has been opened. In order to document these events, as well as obtain prospective psychological test data on people who volunteer for medical experiments, a psychologist has been hired. Hopefully this unit will not only provide information on respiratory vaccines but also provide unique profiles of people participating in medical experimentation.

Additional research aims involve in vitro and animal studies designed to elucidate hypersensitivity or cellular immune mechanisms involved in vaccine administration. Investigations into antibiotic activities in vitro and in vivo are a major research effort of those staff members of the Division at the VA Hospital. This group has become recognized nationally for their work with antibiotic synergistic mechanisms.

Occasional studies on drug bioavailability characteristics were conducted with support from the Food and Drug Administration.

RESEARCH SUPPORT

- U.S. Army — 1. Study of Shigella Vaccines in Man
2. Pathogenesis, Detection, Prevention and Treatment of Infectious Diseases of Military Importance
- N.I.H. — Study of Viral Vaccines in Man
- W.H.O. — Study of Immunogenicity and of the Effectiveness of Cholera Vaccines
- F.D.A. — Biologic Availability Testing
- Independent Pharmaceutical Grants:
E.I. duPont & Company
Lederle Pharmaceuticals
Smith Kline & French Company

PUBLICATIONS

1. R.M. Kluge, H.C. Standiford, B. Tatem, V.M. Young, W.H. Greene, S. C. Schimpff, F.M. Calia, R.B. Hornick, Comparative activity of Tobramycin, Amikacin and Gentamicin alone and with Carbenicillin against *Pseudomonas aeruginosa*. *Antimicrobial Agents and Chemotherapy*, 6:442-446, 1974.
2. R.M. Kluge, H.C. Standiford, B. Tatem, V.M. Young, W.H. Greene, S.C. Schimpff, F.M. Calia, R.B. Hornick, The Carbenicillin-Gentamicin Combination against *Pseudomonas aeruginosa*: Correlation of effect with Gentamicin sensitivity. *Annals of Internal Medicine*, 81:584-587, 1974.
3. E.R. Wald, H.C. Standiford, B. Tatem, F.M. Calia, R.B. Hornick. BL-P 1654 Ticarcillin and Carbenicillin: *In vitro* comparison alone and in combination with Gentamicin against *Pseudomonas aeruginosa*. *Antimicrobial Agents and Chemotherapy*, 7:336-340, 1975.
4. R.M. Kluge, F.M. Calia, J.S. McLaughlin, R.B. Hornick. Sources of Contamination in Open Heart Surgery. *J. Amer. Med. Assoc.* 230:1415-1418, 1974.
5. R.B. Hornick. Acute Bacterial Diseases. *Advances in Internal Medicine*; Vol. 21.
6. F.M. Calia, D.E. Johnson. Bacteremia in suckling rabbits following oral challenge with *Vibrio parahaemolyticus*. *Int. Imm.* 11:1222-1225, 1975.
7. R.M. Kluge, F.M. Calia, J.S. McLaughlin, R.B. Hornick. Sources of contamination in open heart surgery. *J. Amer. Med. Assoc.* 230:1415-1418, 1974.
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9. C.L. Gonzalez-C, F.M. Calia. Bacteriologic flora of aspiration-induced pulmonary infections. *Arch. Int. Med.* 135:711, 1975.
10. M.M. Levine, P.A. Rice, E.J. Gangarosa, G.K. Morris, M.J. Snyder, S.B. Formal, J.G. Wells, P. Gemski, Jr., J. Hammond: An Outbreak of Sonne Shigellosis in a Population Receiving Oral Attenuated Shigella Vaccines. *Am. J. Epidemiol.* 99:30-36, 1974.
11. M.M. Levine, E.J. Gangarosa, M. Werner, G.K. Morris: Shigellosis in Custodial Institutions. III. Prospective Clinical and Bacteriologic Surveillance of Children Vaccinated with Oral Attenuated Shigella Vaccines. *J. of Pediat.* 84:803-806, 1974.
12. M.M. Levine, E.J. Gangarosa, W.B. Barrow, G.K. Morris, J.G. Wells, C.F. Weiss: Shigellosis in Custodial Institutions. IV. In Vivo Stability and Transmissibility of Oral Attenuated Streptomycin-Dependent Shigella Vaccines. *J. Infect. Dis.* in press, 1975.
13. M.M. Levine, Y. Togo, E.R. Wald: Practicability of Influenza Surveillance by Virus Culture of Children. *Am. J. Epidemiology*, 100:272-276, 1974.
14. M.M. Levine, R. Ashman, F.P. Heald: Anaerobic (Putrid) Lung Abscess in Adolescence. *Am. J. Dis. Child.* in press, 1975.
15. M.M. Levine, R.B. Hornick, H.L. DuPont: Lactulose in the Therapy of Acute Shigella Dysentery and Shigella-Carrier State. Submitted for publication.
16. M.M. Levine, S.B. Formal, R.B. Hornick, H.L. DuPont: Preliminary Experiences with a New Generation of Oral Shigella Vaccine: *Escherichia coli* Bearing Shigella Surface Antigens. (Manuscript in Preparation).
17. M.M. Levine, G. Edsall, L.J. Bruce-Chwatt: Live Virus Vaccines in Pregnancy: Risks and Recommendations. *Lancet*, II:34-38, 1974.
18. E.R. Wald and M.M. Levine: Frequency of Detection of Haemophilus Influenzae Type B Capsular Polysaccharide in Infants and Children with Pneumonia. *Pediatrics*, in press.
19. G.T. Keusch, M. Jacewicz, M.M. Levine, R.B. Hornick, S. Kochwa: Pathogenesis of Shigella Diarrhea. IV. Serum Anti-toxin Antibody Response Produced by Toxigenic and "Non-Toxigenic" *S. dysenteriae* 1. Submitted for publication.
20. R.H. Gilman, M. Termini, M.M. Levine, P.H. Mendosa, E. Calderone, V. Vasquez, E. Martinez, M.J. Snyder, R.B. Hornick: Comparison of Trimethoprim-Sulfamethoxazole and Amoxicillin in Chloramphenicol Resistant and Sensitive Typhoid Fever. Submitted for publication.
21. R.H. Gilman, M. Termini, M.M. Levine, P.H. Mendosa, R.B. Hornick: Comparison of various culture sites for recovery of *Salmonella typhi* in typhoid fever. *Lancet*, In press, 1975.
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23. A.R. Schwartz, Y. Togo, R.B. Hornick: Clinical evaluation of live, oral types 1, 2, and 5

- adenovirus vaccines. *Amer. Rev. Resp. Dis.*, 109:233-238, 1974.
24. D.M. Pachuta, Y. Togo, R.B. Hornick, A.R. Schwartz, S. Tominaga: Evaluation of isoprinosine in experimental human rhinovirus infection. *Antimicrob. Ag. Chemother.*, 5:403-408, 1974.
 25. M.M. Levine, Y. Togo, E.R. Wald: Practicability of prospective influenza surveillance. *Amer. J. Epidemiol.* 100:272-276, 1974.
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 27. L.W. Miller, E.B. Hume, F.R. O'Brien, Y. Togo, R.B. Hornick: Alice strain live attenuated influenza (H3N2) vaccine in an elderly population. *Amer. J. Epidemiol.*, 101:340-346, 1975.
 28. L.W. Miller, Y. Togo, R.B. Hornick: Clinical and serologic effects of Alice strain live attenuated influenza A (H3N2) virus vaccine in an adult population. *Medical Microbiol. and Immunol.*, in press.
 29. Y. Togo, E.A. McCracken: Double-blind clinical assessment of ribavirin (Virazole) in the prevention of induced type B influenza infection. *J. Infect. Dis.*, in press.
 30. A. Cohen, Y. Togo, M. Sigel: A comparative clinical and laboratory evaluation of the prophylactic capacity of ribavirin, amantadine HCl and placebo in induced human influenza type A. *J. Infect. Dis.*, in press.
 31. F. Perez Rodriguez, R.H. Bermudez, Y. Togo: Attenuated influenza virus intranasal vaccine in a high risk male population. *Bol. Assoc. Med. Puerto Rico*, in press.

From 1978 to 1980, the Division of Infectious Diseases excelled in its pioneering contributions to the Department's program in teaching of medical students, house officers, fellows and graduate physicians. Members rendered expert consultative advice for the hospital, throughout Baltimore, Maryland and elsewhere. Lectures were willingly given for other clinical and basic science departments. The fellowship program was greatly expanded and attracted strong candidates from various leading institutions and the Center for Disease Control, Atlanta. Close and effective links were established or enhanced with the Shock Trauma Unit and the Baltimore Cancer Research Center. Doctor Ellis Caplan led in this connection. The special center for vaccine development, headed by Doctor Michael Levine, expanded its scope and depth. Doctor David Clyde, Doctor Bert DuPont, Doctor William Woodward, Doctor Sheldon Greisman, Doctor Robert Gilman, and others contributed earlier to the work in vaccine development, particularly on studies

of malaria, tularemia, typhoid fever, dysentery, and cholera. Productive intercity infectious disease conferences were sponsored monthly by the University, Johns Hopkins, and other hospital infectious disease groups in Baltimore. Doctors Ellen Wald, Peggy Rennels and Celeste Woodward established close connections with pediatricians; later Doctor John McConville and Doctors J. Goodman and Ron Geckler established effective liaison with York Hospital and Mercy Hospitals, respectively.

The division's research program which included VA faculty members, was directed to three major areas.

1. Infections of the compromised host and nosocomial infections.
2. Clinical study and biologic characteristics of antibiotics.
3. Vaccine development and international medicine.

PUBLICATIONS

1. The Clinical Course in the Diagnosis of Infection in the Compromised Host. In *Hospital-Associated Infections in the Compromised Host*. Ed.: G.P. Bodey and V. Rodriguez. Marcel Dekker, Inc., New York, 1979, pp. 37-59. (Book Chapter) (Schimpff, S.C.)
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RESEARCH SUPPORT

Source	Amount	Title
Lederle Laboratories	\$ 116,172	Influenza Vaccine Studies (1974–1977)
National Institutes of Health	1,059,127	Center for Vaccine Development (1977–78)
U.S. Army Research and Development Command	69,266	Detection, Prevention and Treatment of Infectious Diseases (1978–79)
National Institutes of Health	2,289,605	Center for Vaccine Development (1978–80)
World Health Organization	8,000	Control of Diarrhea Due to Cholera (1978–79)
Merck Sharp & Dohme	60,000	A Randomized Comparison of the Efficacy and Safety of Cefoxitin vs. Combination Therapy of Clindamycin and Gentamicin in the Treatment of Serious Aerobic-Anaerobic Infections (1978–80)
Hynson, Westcott & Dunning	73,800	Lactobacilli in Prevention of Diarrhea (1979–80)
Pan American Health Organiz.	10,000	Oral Therapy Strategies in the Caribbean (1978–79)
U.S. Army Research and Development Command	77,000	Efficacy Challenge Studies of <i>E. coli</i> Pili Vaccines (1/1/79–12/31/79)
Eli Lilly Company	49,000	The Effect of Keflex on Catheterized Patients (UTI Study) (4/79–6/80)
Middendorf Foundation	46,178	Pathogenesis and Prevention of Diarrheal Diseases of Man (1978–79)
	\$3,888,148	

MEDICAL AMBULATORY CLINIC (1974-75)

FACULTY

At the request of Doctors Theodore E. Woodward and Maureen Henderson, Doctor William S. Spicer, Jr. has assumed the position of Director, Ambulant Medical Services. Doctor Herbert A. Kushner has been named Associate Director, Ambulant Medical Services. The integrated ambulatory services comprise Medical Clinic, Primary Care Clinic and Medical Screening Clinic. There are thirty-five attending physicians, twelve nurse-practitioners, ten registered nurses, nine nursing assistants, one clinical pharmacist, one social worker, two dieticians, one technician, and sixteen secretarial and clerical personnel involved on a full or part-time basis in the operation of the integrated services.

A solid group of physician teachers included Dr. Herbert Kushner, Dr. James Quinlan, Dr. Marguerite Moran, Dr. Anthony Riley and Dr. Ed Koza. Under the primary care program, Dr. Celeste L. Woodward gave dedicated patient care for many years in the emergency room.

On four separate occasions from 1968 to 1980 Dr. Celeste Woodward served the American Medical Association with distinction as a volunteer physician for displaced persons in Vietnam and later for refugees on the Thailand Vietnamese border.

OPERATING PLAN AND IDEOLOGY OF MEDICAL CLINIC

The past year has been devoted to integrating the Medical Clinic with the Primary Care Clinic in order to improve both training and patient care. Although the old Medical Clinic has not disappeared, it no longer requires attendings, fellows, and interns in provider roles and is evolving into a true consultative clinic. Most of the ongoing care of stable chronic disease is delivered by nurse-practitioners as part of a team consisting of a senior faculty member, second-year residents, two interns. The team checkout system has been modified to accommodate the new providers.

Our educational goal in reorganizing the Medical Clinic is to provide the house officer with a more stimulating and broadening experience than his previous weekly clinic. In conformity with the primary care commitment of the Department of Medicine, we are attempting to train true general internists, capable of providing the entire continuum of primary patient care but, equally important, capable of leading the patient care team both medically and administratively. We expect that the role of the Department of Medicine will of necessity extend beyond the University of Maryland Hospital; first steps have been taken in this direction.

EDUCATION

A. Undergraduate Program

Two fourth-year medical students now spend full-time in the Clinic, dividing their hours between new patient data base acquisition and followup care. Their new patient preceptors consist of senior faculty members, both full-time and part-time. The cooperation of the voluntary staff has been encouraging.

Many attendings find the student program relevant to the actual practice of medicine.

Dr. Joseph Furnari, Dr. Donald Mintzer, Dr. Luis Gonzalez, Dr. Raymond Roig, Dr. Joseph Shear and Dr. Samuel O'Mansky, former house officers and now Baltimore-based physicians, have contributed importantly to the teaching of medical students and house officers in the medical clinic.

The program is becoming increasingly attractive to fourth-year medical students.

B. Graduate Program

Physicians attached to the nurse-practitioners participate in daily noon-time audits and a weekly ambulatory conference as well as a seminar.

During the year 1974-75, 719 patients were seen in the Medical Clinic and 9,500 patients in Primary Care.

PLANS FOR IMPROVEMENT

1. The teaching program will be improved:

A. *Third-year medical students will eventually be introduced to ambulatory care through participation in the nurse-practitioner modules. This will provide them with a ready-made clinic population which will not be abandoned on change of rotation.*

B. *The ambulatory program for fourth-year students will be expanded to allow more students to participate.*

C. *House staff participation in the Medical Clinic will be audited even more closely. Hopefully,*



house staff will be assigned to either the Veterans Administration or University of Maryland Clinics on entrance into the University of Maryland Hospital, and will be required to maintain attendance at a single institution during their entire tenure.

2. Appointment System:

An appointment system has effectively been implemented since nurse-practitioner duties are limited to the outpatient area, precluding the conflict of duties which often led to physician absence. Increase in consultative medical practice will allow for more flexibility in patient scheduling in the future.

MEDICAL AMBULATORY CLINIC (1978-79)

FACULTY

Spicer, W.S. Jr., Quinlan, J.A. Jr., Kushner, H.A., Al-Ibrahim, M., Amsel, A., Hardesty, D.C., Moran, M., Randall, L., and Wiser, T.H.

OPERATING PLAN AND IDEOLOGY

Under Doctor William Spicer's guidance, Medical house officers at the G2 and G3 level and primary care track residents trained in a continuity clinic for three postgraduate years with teams of nurse practitioners, Senior medical students, clinical pharmacists, and faculty members. This innovative unit added materially to the career development of house officers and helped link Departmental activities with the Schools of Nursing and Pharmacy.

PUBLICATIONS

1. Al-Ibrahim, M.S.: Immunological Studies in Acute Pseudomembranous Esophageal Candidiasis. *Gastroenterology* 75:292-296, 1978.
2. Al-Ibrahim, M.S.: Activated Lymphocytes Depress Phagocytosis of Latex Particles by Human Monocyte-Macrophages. *Cell Immunol.* 41:217-230, 1978.
3. Al-Ibrahim, M.S.: Depression of Lymphocyte Reactivity by Cirrhotic Plasma. *Clin. Res.* 27:271a, 1979.
4. Wiser, T.H.: Oral Anticoagulant Management by Pharmacy Clinicians. *Contemporary Pharmacy Practice*, 1978.

RESEARCH SUPPORT

Source	Amount	Title
Department of Health, Education and Welfare	\$1,091,145. (Over five-year period; subject to renewal at end of five years.)	Graduate Training, General Internal Medicine

DIVISION OF NEPHROLOGY

FACULTY

- John H. Sadler, M.D.
Associate Professor of Medicine
Head, Division of Nephrology
- Emilio Ramos, M.D.
Assistant Professor of Medicine
- Andrew Nowakowski, M.D.
Assistant Professor of Medicine
- John R. Little, MB, Ph.D.
Associate Professor of Medicine

Maryland General Hospital

- Cedric A. Bryan, M.D.
Clinical Assistant Professor of Medicine
- Michael Yen, M.D.
Clinical Assistant Professor of Medicine

EDUCATION

The formal Nephrology educational programs in the University of Maryland Hospital and Medical School have been expanding progressively since the reestablishment of this Division in 1972. The postgraduate Nephrology fellowship program has two first-year and two second-year fellows. We have two second-year medical residents and two or more senior students on the renal service throughout the academic year. Regular weekly clinical conferences and Nephrology seminars are carried out by faculty with the assistance of these residents and students. Biweekly Renal Biopsy Conferences are held with Doctor Ray Nagle of the Department of Pathology. We share conferences and teaching activities with Doctor Nagle and Doctor E. J. Ruley of the Department of Pediatrics.

These conferences are directed at two levels: first, to provide a sound base of pathophysiologic understanding and experience, and to develop a rational approach to renal disease and fluid and electrolyte disturbances; second, to explore in depth the mechanism and character of the disease processes encountered and evaluate the state of knowledge available in these specific instances. Literature review, case surveys, and laboratory reports are used in these efforts.

For many years Dr. Anthony D. Lewandowski participated in the clinic activities and teaching sessions of the Division.

Throughout the early development of our teaching program, we have used the model of high quality patient care as the appropriate mechanism in which a physician may learn physiology, pathology, therapeutics, and observational skills in Nephrology.

The sophomore renal block, in the second semester, is a joint project of pathology, urology, and pediatric nephrology. The major types of pathophysiology, clinical evaluation of renal disease, and renal function are taught by this Division. Renal influences on drug metabolism and excretion, management of hypertension, and pathophysiology of hypertensive cardiovascular disease also are taught to these students by Nephrology.

Additional lectures to first-year medical students on renal failure and hypertension are presented by this Division.

Our efforts attempt to provide the student with a grasp of the language specific to the kidney, tests of renal function, and a decision-making framework to study patients with renal disease. Emphasis is placed on characteristic patterns of disease syndromes and settings. The usefulness of physiologic knowledge is pointed out by its use as a guide in the total approach to diagnosis and the application and evaluation of therapy.

The Maryland Institute for Emergency Medicine staff receives a series of lectures on renal function, renal failure, dialysis techniques and other therapy each year, consisting of a total of 4 to 8 hours delivered by the faculty of this Division. These are basic science refreshers with direct applicability.

We have in this year, as in prior years, given a series of lectures to the Nurse Practitioner students on body fluids and electrolytes, renal function, hypertension, and renal failure. Each is related specifically to common disease states they will encounter.

We have participated in seminars with the Department of Pathology, Urology, Physiology and Pharmacology.

No full-time faculty are yet primarily stationed at the Loch Raven VA Hospital, but frequent contact is maintained to provide consultative care for renal patients there. Conferences are held on these patients and on special topics in nephrology several times each year. Although no hemodialysis facility is envisioned there, we anticipate the establishment of a full-time Renal service at the VA in the future.

Postgraduate teaching programs have been provided to physician groups at Cumberland Memorial Hospital, York (Pennsylvania) Hospital, Mercy Hospital, South Baltimore General Hospital, George Washington University Hospital, and Walter Reed Army Medical Center. Specific training programs for paramedical personnel in organ procurement and hemodialysis have been carried on to sustain our programs at both the University

of Maryland Hospital and the John L. Deaton Medical Center Dialysis Program.

We have participated in training programs for nurses and technicians on a regional basis through the South Eastern Organ Procurement Foundation. Our continued participation in this organization for organ procurement, investigation, and sharing will be detailed under Service activities.

RESEARCH

As a newly established Division we have not received research grants and our only laboratory is used for organ preservation for transplantation. With the arrival of Doctor John Little, a distinguished physiologist who will direct our laboratory effort, we anticipate an acceleration in research programs when space and equipment are available. Our teaching effort and our service obligation have reduced sharply the time available for laboratory research considerations.

Investigative efforts have been focused for the past year on two principal areas: first, studies of mechanisms of acute renal failure. These have led to a search for effective, prompt assays for myoglobin by Doctor Paul Light, Fellow, with the assistance of Doctor Ruley in Pediatrics, and proposals for specific protocols in collaboration with the Maryland Institute of Emergency Medicine. Secondly, investigation of organ viability prior to transplanation and studies of techniques of organ preservation in preparation for transplantation have been carried out. The definition and characterization of injury to organs in the course of preservation for transplantation has been carried on in collaboration with the Baltimore City Hospital Nephrology group, and the pathologists at both our institutions. This paper has been presented and is awaiting publication.

Detailed clinical investigation of specific syndromes and of particularly interesting cases has been carried out in a number of occasions, but not in the form of a coordinated research project.

SERVICE

Our inpatient clinical programs at University of Maryland have grown further in the past year. A coordinated program whereby a faculty member supervises all inpatient care has led to greater efficiency, more effective communications, and better patient care. The Renal Clinic has served for consultations with other clinics and long-term service to outpatients at University of Maryland Hospital. Private referrals from throughout Maryland and Southeastern Pennsylvania have increased.

In 1974-1975, we performed about 75 renal biop-

sies. With excellent cooperation from Doctor Ray Nagle in the Department of Pathology, the usefulness of this procedure has increased dramatically. Routine electron microscopy and immunofluorescence microscopy augment light microscopic findings to provide better understanding of disease, more precise diagnosis, and prognosis.

Although the specified inpatient area for renal disease patients has not yet been developed, our inpatient services have increased significantly providing a clinical base for all our Nephrology programs.

The Nephrology Division has continued to direct the organ procurement program and organ preservation laboratory and to coordinate communications in arranging for kidney transplants. Despite reduction in staff to a single transplant surgeon, Doctor Fuad Dagher carried out 20 kidney transplants in 1974-1975. Forty-four kidneys were obtained by the University of Maryland team and shared with other Baltimore Transplant Institutions and member institutions of the South Eastern Organ Procurement Foundation, an organ-sharing and information service group covering most of the Eastern U.S.

In the past year, Doctor Bryan and Doctor Yen at Maryland General Hospital have received faculty appointments and their affiliated program has continued to provide high-quality services for both the evaluation of renal disease and its management including hemodialysis services. Transplant candidates from Maryland General Hospital are referred to University of Maryland Hospital for transplantation. Doctor Lewers, the originator of the Maryland General Hospital program, has left to return to the Eastern Shore. He is missed, but he has built a solid foundation for a strong future.

The affiliated hemodialysis unit which is directly operated by this faculty at the John L. Deaton Medical Center (an extended care facility) is convenient to the University of Maryland Hospital and is a stable chronic care facility for patients with renal failure. We have offered occasional convalescent inpatient care for hemodialysis patients in that facility. We have carried out home dialysis training for 17 patients in 1974-1975. That program has cared for over 115 patients since its inception in March 1973, 74 of whom are on that chronic program now, 41 of whom entered it 1974-1975. This facility, with its excellent and attractive physical plant, is the appropriate site for this kind of care. The overall facility offers flexibility of services, and the convenient access to University Hospital makes our backup care and supervision fit into the overall Nephrology program. Training for fellows and residents in hemodialysis and care of chronic renal failure and its complication is carried on there.

In the late 70s the Nephrology Program was strengthened by the addition of Doctors Yu-Liang Shen, Doctor Terry Wilson, Doctor John Josselson and Doctor Paul Light as faculty members.

DIVISION OF NUCLEAR MEDICINE FACULTY

Malcolm Cooper, M.D.
*Associate Professor of Medicine
Head, Division of Nuclear Medicine*

E. Ulric Buddemeyer, Sc.D.
Associate Professor of Medicine

Michael D. Loberg, Ph.D.
Assistant Professor of Medicine

Philip Bernstein, M.D.
Fellow

James Ryan, M.D.
Fellow

Elizabeth Harvey, M.S.
Instructor

John Wiswell, M.D.
*Faculty Associate
Division of Endocrinology*

James Quinlan, M.D.
*Faculty Associate
Head, Nuclear Medicine, VA Hospital*

Pat Calley, Ph.D.
*Faculty Associate
Department of Medicinal Chemistry (Pharmacy)*

Dr. Gerald S. Johnston succeeded Dr. Cooper as director in 1976. Dr. Johnston effectively expanded the patient service programs utilizing the newest imaging techniques which favored all departments. Teaching and research activities were well coordinated.

EDUCATION

The Nuclear Medical Science course is now an approved 8-credit, 2-semester course offered by the Schools of Pharmacy and Medicine and taught by the Faculty of the Division of Nuclear Medicine. The basic science part of the course was offered successfully in the Spring Semester of 1975. Thirty-two graduate students registered and 21 received credit for satisfactory completion of the course. The graduates taking the course include M.S. degree candidates in the School of Pharmacy and Residents in Radiology and Nuclear Medicine in the School of Medicine.

This didactic course and laboratory experience provides the basis of the 2-year Nuclear Medicine residency program. An A.M.A. site visit to consider approval of the Residency Program is expected during the current Academic year.

Junior and senior electives in clinical and investigative Nuclear Medicine are offered for medical students and residents. Didactic nuclear medicine lectures are given throughout the year to the medical students as part of the Subject-System program. Biweekly combined conferences are held on

a regular basis with the Division of Endocrinology, the Baltimore Cancer Research Center, and Neuroradiology. Much teaching at graduate level is also performed by the Divisional faculty at other institutions, notably Georgetown University and Johns Hopkins Medical Institutions.

RESEARCH

The research program of the Division centers around the strengths and interests of the Faculty, Fellows, and Associates from other disciplines working in collaboration.

Two important assets are peculiar to this University. The first is the School of Pharmacy through which a collaborative program in Radiochemistry and Radiopharmacy has been developed. The second is the University of Maryland Physics Department cyclotron at College Park which is a unique facility for the production of special new radionuclides such as Iodine-123.

Divisional research operates at three levels of activity. The first includes chemical and cellular studies, isotope production, and development of new radiopharmaceuticals. The majority of this work is carried out in the School of Pharmacy. The second involves animal work to study pharmacokinetics, tissue distribution, and safety studies. Much of this work is performed in the animal laboratory in the Bressler Building shared with the Division of Cardiology. Since Nuclear Medicine is a diagnostic modality, a major end-point of its research is clinical utility, and this provides the third level of the research program conducted in the Division and with collaborators in the Medical and Dental Schools.

All members of the Division participate in research either as trainees, collaborators or investigators in their own right. This is exemplified by the fact that all the faculty members, Drs. Cooper, Quinlan, Loberg, Buddemeyer, and Miss E. Harvey; two of the fellows, Drs. Termini and Ryan; and chief technician, Mr. T. Sorandes; and another technician, Mr. Getka, presented research papers from the Division at the national meeting of the Society of Nuclear Medicine held in Philadelphia, 1975.

One successfully completed research study conducted for three years led to development of a rapid means of producing radioiodinated autologous fibrinogen. Practically all members of the Division contributed, but the work was a major effort of Drs. Cooper, Loberg, and Quinlan. The need for such a radiopharmaceutical arose from the potential hazard of transmitting serum hepatitis when fibrinogen was obtained from pooled sources. Within one to two hours of receiving the patient's blood, the Iodine-131 labeled, autologous fibrinogen can be reinjected

into the patients. It has proven a clinical value in the early diagnosis of renal transplant rejection. In collaboration with Drs. Ollodart and Dagher from the Department of Surgery's Transplant Unit, clinical studies showing its efficacy have been completed. Rejection in the kidney is detected by observing an increased deposition of fibrinogen in the transplanted kidney. Work with this radiopharmaceutical is continuing in collaboration with Dr. Iber, Gastroenterology, and his associates to study fibrinogen metabolism in liver disease.

A major research effort has been made to develop radiolabeled synthetic drug analogues, the subject of much interest and speculation since the work was first announced early in 1975. This has been the principle work of Dr. M. Loberg as a collaborative effort between the Division and the School of Pharmacy, including Dr. P. Callery in Medicinal Chemistry.

Much is known about many drugs, how they act and where they localize in the body. Investigators have sought ways of utilizing this information by making drugs into radiopharmaceuticals and using them in the diagnosis of disease. In this project a new method has been devised which from preliminary data appears successful. Chelates which bind metal ions have been incorporated into drug molecules to create synthetic analogs of the drugs. The metal ions used are specially chosen radionuclides which allow the distribution of the radiopharmaceutical in the body to be recorded as an image, thus visualizing the target organ and observing its function. The drugs chosen are those known to accumulate in the heart and certain forms of cancer. Successful completion of this work will be of value in the diagnosis of heart disease and cancer.

The first success from this effort has been the development of a new gallbladder imaging agent, Tc - 99m - N[N' - (2,6-dimethylphenyl) carbamoylmethyl] iminodiacetic acid. The preliminary animal work showing its efficacy has been completed by Miss E. Harvey. Approval for its use has been obtained and clinical studies are now under way in collaboration with Dr. Iber and his associates.

There is a strong research interest in the Division in the application of radiotracer techniques in cardiology. For the past two years, work has been in progress to develop new radiopharmaceuticals for myocardial imaging. As a collaborative effort with Dr. L. Scherlis, Dr. B. Termini has been investigating the role of the currently available potassium-43 chloride. Working with Dr. J. McLaughlin in Cardiothoracic Surgery, this work has resulted in several presentations and publications concerning myocardial imaging in patients

receiving saphenous vein bypass grafts for coronary heart disease.

For many years the Division conducted studies of the long-term effects of radiation on the thyroid gland. Dr. John Wiswell continued the evaluation initiated by Dr. Joseph Workman. Drs. James Quinlan and Dr. William Valente contributed importantly to this study.

Dr. E.U. Buddemeyer, who joined the faculty in the past year, provided additional research strength with his invention of a new method of in vitro radiometric analysis. This work, which he began at the Johns Hopkins U., is progressing rapidly and provides a means of detecting and quantifying cellular metabolism. Collaborative efforts studying leukocyte and lymphocytic function, bacterial metabolism and identification, and enzyme syntheses are underway.

The work on Radiolabelled Drug Analogs was submitted as an unsolicited grant proposal to N.H.L.I., approved and budgeted. Funding is anticipated in the current academic year. This innovative work was developed by Dr. Michael Loberg and over the next few years should represent a major contribution in the field of Nuclear Medicine.

New lines of research are being developed as this young team, all recruited within the past 18 months to 2 years, gain confidence and expertise. There is an abundance of talent, ideas and enthusiasm within the group which includes students, technologists and junior and senior faculty from the Schools of Medicine, Pharmacy, and Dentistry.

The Division of Nuclear Medicine has no specially assigned research space. The work has been performed with the assistance of investigators who willingly provided lab space and equipment, principally in the School of Pharmacy, Department of Medicinal Chemistry. Animal work and clinical research have been performed in the service area beginning in the late evening when patient studies have been completed.

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5. B.A. Termini, L. Scherlis, R.T. Singleton, J.S. McLaughlin, and M. Cooper: Myocardial scanning in patients undergoing coronary bypass surgery. *ABSTR. JAMA* 230:1084, 1974.
6. M.D. Loberg, P.S. Callery, E.B. Harvey, W.C. Faith, and M.D. Cooper: Development of a chelating group for synthesis into drug and biochemical analogs. *ABSTR. Nuclear Medicine* 16:546, 1975.
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8. J. Quinlan, M. Loberg, R. Ollodart, and M. Cooper: Detection of acute rejection in kidney transplants using radioiodinated autologous fibrinogen (RAF). *ABSTR. Nuclear Medicine*, 16:555, 1975.
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12. M.D. Loberg, S. Wall and M. Cooper: Feasibility study on the use of medium energy cyclotrons for the production of I-123. *Maryland Bureau of Radiological Health Planning Symposium*, May, 1975. To be published—1975.
13. M.D. Loberg: The practice of nuclear medicine and the role of the radiopharmacist. *The Maryland Pharmacist*, In press.
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15. E.U. Buddemeyer: Principles for Cardiovascular Nuclear Medicine—Chapter 1. 'Instrumentation'. *Cardiovascular Nuclear Medicine* Edited by H.W. Strauss, B. Pitt, A. James. Mosby, 1974.
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SERVICE

A total of 10,280 procedures were performed representing a 35% increase over the 1973-4 total.

Since 1973 the in vitro and non-imaging studies have remained fairly stable and the increase can be attributed to imaging procedures. The most frequently performed studies remain the brain scan and liver scan, whereas the studies which are increasing rapidly are the bone scan and whole body Gallium-67 scan, both of which are used for cancer detection, metastatic surveys, and as a means of determining therapeutic response. About half of the Division's procedures are performed on an outpatient basis. The factors accounting for the increased service workload similar to those operating during 1974—

- relocation of BCRC (March 1974)
- expansion of Hospital bed status
- introduction of new radiopharmaceuticals by the Division of Nuclear Medicine
- education of other Clinical Services to the utility and clinical value of Nuclear Medicine procedures

This increase in workload is a laudable commentary on the industry of the technical staff of the Division. It has been achieved without increase in numbers of personnel or instruments available for imaging studies. No new equipment has been provided by the Hospital during the year and the technicians continue to operate in an area which awaits renovation to make the unit adequate for proper patient care.

Facilities and equipment must improve in order to maintain standards and cope with the increased demand for services. New imaging and analysis instruments expected in the lab during 1976 will help alleviate the difficulties. Completion of renovations of space for the Division of Nuclear Medicine by mid 1977 and implementation of an effective cost center concept should help the Division in achieving its aims and responsibilities.

DIVISION OF PULMONARY DISEASES

FACULTY

David G. Simpson, M.D.
Associate Professor of Medicine
Head, Division of Pulmonary Diseases

Thomas E. Hobbins, M.D.
Assistant Professor of Medicine

H. David Kerr, M.D.
Associate Professor of Medicine

Charles B. Payne, Jr., M.D.
Assistant Professor of Medicine

Alice Garcia-Hamoy, M.D.
Fellow

William Randall, MD.D.
Fellow

Rejep Erol, M.D.
Fellow

EDUCATION

Undergraduate and graduate teaching was conducted at the Western District Health Department Chest Clinic, Loch Raven Veterans Administration Hospital, and the University of Maryland Hospital. Both private patients and outpatients are used in teaching sessions for students and residents; the major thrust of this effort is to provide familiarity with the more common pulmonary diseases, namely, tuberculosis, sarcoidosis, lung cancer, asthma, bronchitis, and emphysema. The elective rotation of senior students to the outpatient clinic during their ambulatory care program has continued as a successful and rewarding learning experience. It is unfortunate that, because of space limitations, the number of students may not exceed four. With each rotation the clinic could have three or four times this number who can be accommodated. Other senior students and residents who elect to spend time in the Division must be accommodated and space is always a problem. The fellows and ex-fellows contribute much to the value of the clinic as a learning resource.

The combined medical-surgical weekly conference at the Loch Raven VA Hospital offers a rich source of clinical material and appropriate discussions are undertaken for students and house officers there and for the fellows of the Division. This conference should be even more productive during the coming year with one fellow rotating to the VA Hospital. This fellow will be available for ward consultation and teaching and he will play a major role in arranging the conference.

The faculty of the Division also participated in the Introduction to Clinical Medicine in the freshman year and in the teaching of Subject Systems to the sophomore medical students. Students in the freshman year also had the elective opportunity in Physiology to work in the Pulmonary Function Laboratory under Dr. Kerr where they received in-depth instruction in applied physiology in health and disease. Members of the Division also participated in courses in the School of Pharmacy and to freshman class and nurse-practitioners of the School of Nursing.

RESEARCH

Dr. David Simpson was particularly effective in diagnosis and therapy of lung disorders, especially tuberculosis.

Dr. Hobbins participates in a collaborative study with Dr. Richard Riley and Dr. Gardner Middlebrook to investigate the effectiveness of ultraviolet radiation in the inactivation of aerosolized influenza virus. This study was supported by Dr. Riley's grant from the Environmental Protection Agency. The inactivation of influenza virus by ultraviolet radiation was demonstrated; approximately 80% of aerosolized infectious particles was destroyed. The dose required was comparable to the dose of radiation used to inactivate airborne tubercle bacilli in a hospital ward. Ultraviolet lighting, therefore, can be used to prevent transmission of aerosolized respiratory agents present in small particles. Furthermore, the technique may be used to reduce the transmission of viral agents in meeting places such as waiting rooms, classrooms, movie houses, etc.

A joint program of study of pulmonary function and environmental pollutants with the Johns Hopkins School of Hygiene and Public Health using the environmental chamber is directed by Drs. David Kerr and Thomas Kulle. The Environmental Protection Agency supports this work by contract. Such toxic substances as sulfadiazide, chlorine and fluoride are studied. The annual award exceeds 300,000 dollars.

In collaboration with members of the Department of Environmental Medicine, Johns Hopkins School of Hygiene and Public Health, the following studies are currently underway or are planned for the near future: 1) The effects of nitrogen dioxide on the respiratory function of normal human subjects and patients with chronic bronchitis, emphysema, and asthma. 2) A study of adaptation to ozone has begun and preliminary results indicate that non-smokers lose their sensitivity to the adverse effect of ozone upon respiratory function by the third day of exposure. 3) A study of the combined effect of sulphur dioxide and particulate air pollutants will begin soon. 4) A study of the effect of ozone on aberrations in the chromosomes in human blood is being conducted at the School of Hygiene, Johns Hopkins University. 5) An evaluation of a Micronair Electrostatic Precipitator for removal of particulates, smoke, organic dusts, pollens, viable and nonviable bacteria, and spores has been undertaken under a contract with Dome Laboratories. 6) An evaluation of currently used techniques for the measurement of static lung volumes of patients being supported on mechanical ventilators for which no simple method exists is planned.

Support for three fellows was obtained from the Maryland State Department of Health (\$15,000) and from the American Lung Association of Maryland (\$18,000).

PUBLICATIONS

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SERVICE

A complete pulmonary consultative service for patients at University of Maryland Hospital is provided by the fellows and supervised by the faculty.

In addition members of the Division assume responsibility for the care of approximately 2,000 patients coming to the City Health Department Clinic each year. Contributions also are made to the Baltimore County Clinics and Dr. Simpson conducts a monthly clinic in St. Mary's County. Dr. Hobbins directed the Medical Intensive Care Unit and the Respiratory Therapy Division. Dr. Payne assumed responsibility for fiberoptic bronchoscopy, the outpatient clinic run by nurse-practitioners at the Loch Raven VA Hospital, the pulmonary function laboratory and respiratory therapy unit at Mercy Hospital, and the pulmonary function laboratory at Provident Hospital.

Dr. Kerr supervised the pulmonary function at University of Maryland Hospital and introduced new diagnostic procedures. Among these were the measurement of "closing volumes" for the early detection of obstructive lung disease, the single breath nitrogen elimination rate for investigation of the distribution of alveolar ventilation, and the ventilatory response to carbon dioxide to detect central nervous system response to hypercarbia. During the year 484 inpatients and 252 outpatients were studied. Spirometric measurements were made on 730, measurements of lung volumes on 594, gas exchange on 170, and closing volumes and single breath nitrogen elimination rates on 260 patients.

Members of the Division served in responsible positions in local and state medical organizations. Dr. Payne was honored by his selection for the presentation of the Dr. Robert Brown Memorial Lecture at Meharry Medical College.

DIVISION OF RHEUMATOLOGY

When Dr. Adalbert Schubart resigned his position as head of the division, Dr. Werner Barth was appointed as Director in 1968. He was recruited from the National Institute of Arthritis and Metabolism, Bethesda. Doctor Barth was equally effective

as a physician and educator as Doctor Schubart. Under him, the educational program for fellows and house officers was expanded. In addition to the important research work on complement and its role in pathogenesis of connective tissue diseases, Doctor Barth and his group conducted important studies on amyloid. He directed the division until 1972, when he resigned to return to Washington to become the head of a similar division in the Washington Hospital Center.

Dr. Jean Jackson served as Chief Medical Resident from 1972 to 1973 after she had completed her fellowship in Rheumatology at the Robert Brett Brigham Hospital under Dr. K. Frank Austen in Boston. She served for awhile as Director of the Division and was aided by Dr. Ron Pototsky, Dr. Leon Kochman and others. Subsequently, Doctor Jackson returned to Boston to join the medical staff at the Brigham Hospital on the service of Doctor Austen.

At this point, in 1975, Dr. Mary Betty Stevens, a nationally recognized rheumatologist, accepted the appointment as Head of the Division of Rheumatology on a part-time basis, simultaneously with her appointment of a similar program at the Johns Hopkins Hospital, Department of Medicine, and the Good Samaritan Hospital. This arrangement permitted a concentration of resources between the three institutions and provided excellent opportunities for house officers and fellows of each of the institutions to participate in an expanded program. Those physicians and rheumatologists from Maryland who contributed importantly to the educational, patient care and research were Dr. Marcia Schmidt, Dr. Lynn Billingsley, Dr. J. Wolfe Blotzer along with Doctors Kochman and Pototsky. Dr. Tom Zizic of the Hopkins faculty participated in these activities.

DEPARTMENT OF MEDICINE

BALTIMORE VETERANS ADMINISTRATION MEDICAL CENTER FACULTY

Calia, F.M., Standiford, H.C., Al-Ibrahim, M., Warren, J., Yannakakis, G., Barnett, L., Iber, F.L., Dutta, S., Rogers, E., Sampliner, R., Russell, R., Fisher, M.L., Peters, R., Carliner, N.H., Plotnick, G.D., Hamilton, B.P., Mersey, J., Judd, K.P., Burnett, J.W., Quinlan, J.A., Shannon, R.M.

OPERATING PLAN AND THE IDEOLOGY OF THE MEDICAL SERVICE

The Medical Service at the Baltimore VA Medical Center is ideologically identical with and fully integrated with the Department of Medicine of the University of Maryland

School of Medicine. All staff members hold faculty appointments at the University. House staff are recruited jointly and spend approximately 40% of their time at the VA Medical Center. Medical Students of the second, third, and fourth year also spend a considerable portion of their medical experience at the Baltimore VA Medical Center.

Gastroenterology, Endocrinology, Infectious Diseases, and Cardiology are the major subspecialty divisions at the Baltimore VA Medical Center.

EDUCATION PROGRAM

Undergraduate Program: Approximately 50% of the sophomore medical class receive preceptor-type instruction in Introduction to Clinical Practice at Baltimore VA Medical Center during the academic year.

Junior medical students at the University of Maryland School of Medicine are assigned to a 12-week rotation in Internal Medicine. For six weeks, Junior medical students work on a clinical team with a resident, two interns, two senior students, and an attending physician who is responsible for student teaching and patient care. Didactic lectures and afternoon clinical conferences are designed to familiarize students with problem solving. These conferences are supervised by medical residents, fellows and senior faculty including Drs. Frank Calia, Marguerite Moran, Robert Shannon, and Theodore Woodward. Students attend medical grand rounds, mortality conferences and special sessions in Gastroenterology, Hematology, Endocrinology, Neurology, Hepatology, Infectious Diseases, Pulmonary Disease, Critical Care Management, and Cardiology.

Senior medical students function as interns in Internal Medicine in this setting for two months and assume primary care responsibility under the supervision of medical residents and attending physicians. Each student prepares a 20-minute dissertation on a clinical problem for presentation during his subinternship.

Graduate Program: Interns and residents are expected to acquire skills which lead to board certification in Internal Medicine with emphasis on ambulatory, primary care and inpatient medicine.

Source	Title	Amount
The Upjohn Co.	Prediction of Clindamycine associated colitis by the presence of fecal leukocytes	\$8,290
Parke-Davis	Anaerobic Peritonitis in Mice—An Animal Model.	\$2,742
Hynson-Westcott- Dunning	Influence of lactobacillus preparation on the enterotoxin effect of E. coli.	\$6,371
Bristol	Effect of BL-P 1761 of the nasal carriage of lycerera meningitis.	\$ 423
VA	Assay of enterotoxin in volunteers with diar- rheal illness.	\$29,480

The Cardiology Program at the Baltimore VA Medical Center excelled in its teaching to Junior and Senior medical students, house officers and fellows. Doctors Michael Fisher, Gary Plotnick, and Nathan Carliner were later joined by Dr. Robert Peters. Their research was effectively directed to non-invasive diagnosis procedures, and various types of corrective therapy for cardiac arrhythmias and control of hypertension. During 1978–79, various grants and contracts provided funds in excess of \$40,000 added to a generous Veterans Administration contribution for staff, equipment and supplies. During 1978–79 this productive group published 15 articles in accredited medical journals. Each member of the Cardiology Division contributed much teaching and patient care time to the departmental program in Medicine. Included in the activities was special training of candidates for the Degree of Doctor of Pharmacy.

The Program in endocrinology—metabolism—contributed importantly to teaching research and patient care.

Drs. Bruce Hamilton and James Mersey coordinated their programs with the University. The GI program in Gastroenterology, under Dr. Iber, was fully linked with the University activities.

Dr. Sudhir K. Dutta and Dr. Elizabeth L. Rogers joined the staff in 1976 and 1977, respectively. In addition to their clinical skills in gastroenterology, they added needed strength to the division's educational and teaching activities.

Much of the excellent program in Infectious Diseases at the VA Medical Center was linked with the University's program. Dr. Harold Standiford was in the forefront of work on bacterial antibiotic sensitivity reactions. Dr. Frank Calia contributed very importantly to teaching the clinical features and pathogenic mechanisms of infectious diseases. Very worthy of special comment is the contribution and support given by Dr. Merrill Snyder for each infectious disease program to maintenance of the highest scientific standards.

THEODORE ENGLAR WOODWARD

1954–1981

**Ninth Chairman of the Department of Medicine
University of Maryland School of Medicine
and Physician-in-Chief of the
University of Maryland Hospital**

He Was the Right Choice

by Leonard Morse, M.D.*

Theodore Englar Woodward, M.D. served the University of Maryland School of Medicine as the Ninth Chairman of the Department of Medicine from July, 1954, until September, 1981, a span of twenty-seven years. This essay will attempt to acknowledge and summarize the achievements of a most distinguished physician for recording within The Bulletin of the fifth oldest medical school in the United States. It is hoped that the Alumni Association of the University of Maryland School of Medicine, which includes an estimated 4,450 physicians taught medicine by Doctor Woodward, and now residing throughout the world, will have their recollections stimulated by this account. We are all part of what we have experienced, and those medical students, house officers and practicing physicians are all better doctors for having been exposed to Theodore E. Woodward, Professor of Professors. It must be emphasized that ending his tenure as Chairman of the Department of Medicine was not synonymous with retirement for Doctor Woodward, but actually the beginning of a new chapter in his career.

The first chapter began in 1914 in Westminster, Maryland. Theodore was one of four sons of Lewis K. Woodward, a practicing physician, and his wife, Phoebe Helen Neidig of Frederick, Maryland. His early education culminated in graduation from Westminster High School in 1930. For the next four years, he attended Franklin and Marshall College, where he was awarded a Bachelor of Science degree. In college, he maintained a high scholastic average and excelled in sports being awarded five athletic letters during each of the junior and senior years. Following gradua-

tion, he entered the University of Maryland School of Medicine and received the M.D. degree in 1938. Internship and a one-year residency in medicine at the University of Maryland Hospital was followed by a term as an Assistant Resident in Medicine in Gastroenterology on the service of Dr. John Mateer at the Henry Ford Hospital in Detroit, Michigan.

In 1941, World War II interrupted his formal postgraduate training. Doctor Woodward entered the United States Army with the rank of First Lieutenant. His first military assignment was at Fort George G. Meade, where he served as a Ward Officer. Here he gained valuable experience in the handling of patients with meningococcal meningitis and acute fulminant meningococcemia during the early days of sulfonamides. Because of the pending and rapidly changing world events, he requested foreign service. This led to his reassignment to the Army Medical School where he took one of the early organized courses in tropical medicine. Here he was exposed to the mysteries of diseases new to him which led to new ideas. To follow were various military assignments, first to Bermuda as a Medical Officer with the U. S. Department of Engineers which was engaged in constructing air bases in the Caribbean and other Islands. During an epidemic of dengue in Bermuda, he studied clinical cases and tracked down the *Aedes aegypti* mosquito, the causative vector. He contracted dengue there. He transferred to Jamaica, B.W.I. where he disembarked from a United Fruit Company vessel on December 7, 1941. During eight months experience on this tropical island, he learned much about the indigenous diseases there, particularly malaria and enteric diseases, including typhoid fever. His firm background in clinical medicine gained at Maryland enabled him to identify

*Class of 1955



Photograph taken in Westminster, Maryland, with Dr. and Mrs. Lewis K. Woodward, Sr. (parents) and children (L to R) Bill, Lewis, Craig, Sis, and close friend, Gordon (Slim) H. Chalmers.

and confirm the first case of murine typhus in Jamaica. This and the detection of other cases led to the dispatch of a group of three Army medical scientists to Fort Simonds, Jamaica, where the cases had occurred. With this group, he learned the details and drama of laboratory medicine and ultimately returned to the Walter Reed Army Medical School. The follow-up laboratory work was completed which clearly identified the prevalence of typhus fever in the Caribbean Islands. This experience enabled him to gain insight regarding the rickettsial diseases with a facility to better comprehend the pathologic, epidemiologic, serologic and diagnostic techniques, all useful as means of control.

Because of this background of experience and the impending war in Europe, he was assigned to a Medical Laboratory Unit with the military forces which landed in North Africa in 1942. Painstakingly during the ensuing two years, he performed laboratory work for the United States military forces while on assignment to the Pasteur Institute in Morocco. Field surveys of typhus were conducted by him in collaboration with French health authorities. Fundamental laboratory and clinical studies were performed by him which showed that the available typhus vaccine was protective. This finding was first demonstrated in primates and later in careful studies conducted in volunteers in collaboration with French authorities. The work, which was of inestimable importance, showed that the vaccine was protective and that one large dose of inactivated typhus vaccine protected against infection. This work was performed solely by him with the

help of an Army sergeant with laboratory experience. This work led to Ted Woodward's appointment to full membership on the United States of America Typhus Commission which was established by Executive Order in 1942. To follow was his work with this Commission to help control typhus fever in Naples and southern Italy during that historic epidemic.

Later, he was transferred on assignment to England, Normandy and France and his work took him as far as Cologne. There was to be no R and R because new orders transferred him to the southwest Pacific, New Guinea, and north to the Philippines, first Leyte and later Luzon. He served in the Pacific Theater until the end of the war and his principal work there was with the Typhus Commission on the study of typhus fever and murine typhus. He had the opportunity to work on schistosomiasis with the Johns Hopkins Medical Unit in Leyte. Scrub typhus was of major importance to the Army Forces and it accounted for a considerable number of deaths and much morbidity. While in the Philippines, he was particularly delighted with the opportunity to work with his old chief, Col. Maurice C. Pincoffs, who had been designated by General MacArthur as Chief Public Health Officer for the devastated City of Manila. Major Woodward was placed in charge of the standards of hospital care.

Following the Japanese surrender, he was discharged from the military service in 1945 with the rank of Lieutenant Colonel. Illness intervened for awhile as a consequence of a long-standing amoebic infection. In 1946, he entered the private practice of medicine in Baltimore.

Although his formal academic training was interrupted by an obligation to serve his nation, Doctor Woodward's future career interest was greatly influenced by his military experiences. His earliest publications were about the unusual diseases ranging from endemic typhus fever in Jamaica to a new species of Trombiculid rat mites which caused scrub typhus (tsutsugamushi disease) in Mindoro and others in the Philippine Islands.^{1,2,3} But among the earliest was a publication which reported a patient with acute catarrhal jaundice (now known as viral hepatitis) with thrombocytopenia purpura, and a review of forty-eight cases of purpura, at the University Hospital, undoubtedly culled during his internship. Presumably, this was a signal of his academic motivation.⁴ Doctor Woodward returned to the University of Maryland having had immeasurable experience in tropical medicine under the influence of global conflict. Although the enemy was declared, there were undeclared adversaries, the rickettsia, transmitted by troublesome vectors which caused devastating diseases among servicemen. He studied these diseases and made significant new contributions to their knowledge.

An ability to decipher the undecipherable and to talk about esoteric diseases, often boring to most, in a style of clarity and enthusiasm, was soon to be a recognized attribute. Following the war, Doctor Wood-

ward quickly ascended the academic ladder beginning first as Assistant Professor of Medicine in 1946, a post he held while engaged in private medical practice in Baltimore with his office at 11 East Chase Street. His practice gradually increased with referrals from doctors who practiced in various parts of Maryland. For a year or more, mornings were spent as a part-time physician at Western Electric Company. In addition to this active program, time was found to engage in teaching activities in the Department of Medicine at the University of Maryland School of Medicine and Hospital. Time was also found to spend most of a day each week at the Walter Reed Army Institute of Research where research activities in rickettsial and other diseases continued. Also, he was a faculty instructor in the Department of Preventive Medicine at the Johns Hopkins Medical Institutes under Dr. Perrin Long.

It was in 1948 that Doctor Woodward left his private practice to undertake studies in Kuala Lumpur, Malaya, with his great friend and associate, Dr. Joseph E. Smadel. Their effort led to the first cure of scrub typhus, the first specific treatment for typhoid fever and the prevention of scrub typhus fever. In the same year, upon returning to Baltimore, he accepted the first geographic full-time position offered at the University of Maryland School of Medicine as Associate Professor



Photograph of scrub typhus research team taken at Institute for Medical Research, Kuala Lumpur, Malaya, April, 1948. (L to R) Robert Traub, T.E.W., Joseph E. Smadel (leader), C.B. Phillip and H.L. Ley, Jr.

of Medicine and Director of the Division of Infectious Diseases at the University of Maryland School of Medicine upon invitation from Dr. Maurice C. Pincoffs. Six years later (1954), at the incredibly young age of 40, he was made Professor of Medicine and appointed Head of the Department of Medicine succeeding Doctor Pincoffs. Doctor Woodward was the youngest person in America at that time to head a department of medicine and was the first full-time head of medicine in the history of the University of Maryland School of Medicine. He was the right choice. In the same year, it was my good fortune as a third-year medical student to be alphabetically chosen as one of six for whom he would introduce, by preceptorship, the subject of internal medicine.

From 1949 to 1954, he chaired the Curriculum Committee which completely reorganized the clinical teaching program. Dean H. Boyd Wylie appointed him to that position. Previously, there had been an excessive number of lectures and examinations for students and the recommendations which he spearheaded provided for in-hospital and outpatient exercises for junior and senior medical students under the preceptor-preceptee program. Clinical clerkships for the junior and senior years were established.

It is difficult to envision but, in that era, teaching medical students and house staff as well as patient care was provided by part-time, nonsalaried physicians who were engaged in active medical practice in Baltimore. The budget for the Department of Medicine in 1948 was approximately \$40,000. A small nucleus of physicians began to structure the Department of Medicine, including William S. Love, M.D. (cardiology), Conrad Wolff, M.D. (physical diagnosis), Harry M. Robinson, Sr., M.D. (dermatology) and Milton S. Sacks, M.D. (clinical pathology). Outside resources were sought to build new laboratory facilities and active teaching and research programs were ex-

panded in renal diseases under the direction of Samuel T. R. Revell, Jr., M.D. and Francis J. Borges, M.D.; in cardiology by Leonard Scherlis, M.D., in pulmonary diseases by William S. Spicer, Jr., M.D., in dermatology by Harry M. Robinson, Jr., M.D., in rheumatology by Adalbert F. Schubart, M.D., in gastroenterology by W. Carl Ebeling, III, M.D., in endocrinology and metabolism by Thomas B. Connor, M.D. and John G. Wiswell, M.D., in psychosomatic medicine by Ephraim T. Lisansky, M.D., in neurology by Charles Van Buskirk, M.D., in infectious diseases by Robert T. Parker, M.D., who succeeded Doctor Woodward, and in the birth of nuclear medicine by Joseph B. Workman, M.D. and Robert Bauer, M.D. Fred R. McCrumb, Jr., M.D. later assumed direction of the Section of Infectious Diseases.

The new young chief was a determined yet sensitive leader whose philosophy was evolution, not revolution, as the old made way for the new. Medical services expanded to include the Baltimore Veterans Administration Hospital, a stronger affiliation with the Mercy Hospital was reactivated and affiliations with the Maryland General Hospital and the Baltimore City Hospitals were strengthened.

Professor Woodward called upon some unusually faithful friends who, through the years, directed programs at the aforementioned affiliated hospitals. They were Edward F. Cotter, M.D. and James R. Karns, M.D. In addition, Robert T. Parker, M.D. remained closely aligned with the Department of Medicine in coordinated programs in other Baltimore hospitals. Doctor Lisansky was most productive and faithful.

The Woodward era spanned twenty-seven years which is almost two generations. As the years passed, the Department of Medicine, as well as the entire University of Maryland Medical Center complex, expanded at a colossal pace. New, were the medical school library, a student union, the north hospital



T.E.W. (left) with associates Joe Smadel (center) and James H.S. Gear. South African Institute for Medical Research, 1951.



University of Maryland Hospital Complex. (Left) Old Hospital opened in 1935; (Right) North Hospital opened in 1973.

wing, John Eager Howard Hall, a new medical teaching facility and the Maryland Shock Trauma Center. The sound of jack hammers and cranes muffled stethoscope acuity, parking was always at a premium, new administrative leadership resulted in the fractionation and transfer of divisions which were born in medicine. These changes included the clinical laboratories, neurology and nuclear medicine which were shifted by action of the Dean to other departments or as autonomous departments.

Year after year brought forth another commencement of new physicians and another entering class of those who aspired to become physicians with similar purposes in life. The Woodward leadership stressed sensitive concern for the patient, excellent teaching and fundamental as well as practical research which brought greater knowledge to mankind as well as recognition to the University of Maryland School of Medicine.

Not always did Doctor Woodward's views on policy matters coincide with others at the Medical Center. Occasionally, he expressed these views cogently and objectively as shown in a letter written by him in 1983 which is reprinted as an addendum to this biographic sketch.

Care of the patient was a major concern of Doctor Woodward. He stressed it by his example of compassion at the bedside. Despite his burdensome responsibilities, he had time for a limited practice. Time for interrogation, time for examination, time for interpretation, time for exploration and time for re-examination were the ingredients of complete care which he exemplified. In an era of rapidly advancing technology, one must still appreciate that 80 per cent of diagnosis can be made by a careful medical history and complete physical examination. Doctor Woodward stressed that that wheel of medicine had been long discovered.

As a teacher, he could not be excelled. He was articulate, thorough and untiring. His formal delivery was almost mesmerizing. He could electrify otherwise boring subjects. His favorite professional "sport" was teaching physical diagnosis to sophomore medi-

cal students. He always had time, if one didn't mind waiting for him. Late into the evening, or on weekends, he was frequently observed arched against a door frame clutching his physicians bag surrounded by medical students absorbing his thoughts.

Doctor Woodward is a prolific writer. He once told me that his goal (which I know he has exceeded) was to publish two worthy papers a year. His descriptive ability has been unmatched. A review of his publications reveals over 275 co-authors with whom he has labored in order to create lucid documents of learning which describe their observations, interpretations and results of research. The following quotation from *Direction of the Wind*, South Eastern Asian Treaty Organization Conference on Cholera in 1960, serves as an example of his vividness and style:

Cholera gravis is a medical emergency of catastrophic proportions. Ironically, the vibrio may cause human illness so subtle as to elude diagnosis and so rapid as to outdistance treatment. The physician who adopts a casual and inadequate attitude toward patients with acute cholera will assume the role of executioner. Delays can be tragic.⁵

This prophetic writing of Doctor Woodward's in 1960, stressed that cholera patients were thirsty and he astutely suggested that oral, rather than intravenous alimentation might be feasible with the help of anti-emetic measures. Several paragraphs later, he urged that broad spectrum antibiotics be given a fair and objective trial. Oral rehydration and antibiotic therapy are now standard forms of treatment.

Under Doctor Woodward's leadership, the University of Maryland School of Medicine planned and developed an International Center for Medical Research and Training (ICMRT). Significant funds were provided by the Department of State and the National Institutes of Health. An infectious and tropical disease research unit was established in Lahore, Pakistan, where Doctor Woodward spent a year on sabbatical leave with his wife, Dr. Celeste L. Woodward. A similar laboratory was developed in Bangkok, Thailand, under the auspices of the South East Asia Treaty Organization. Collaborative studies on pathogenesis and control of

infectious diseases with vaccines were developed with the United States Army Research Unit at Fort Detrick, Frederick, Maryland. A carefully designed program of study in volunteers was expanded and an infectious disease research medical unit was built within the grounds of the Maryland House of Correction in Jessup, Maryland.

The achievement of Doctor Woodward's research in infectious diseases has been phenomenal. He helped clarify knowledge of pathogenesis, control and treatment of the rickettsioses during World War II. With his dear friend and colleague, the late Joseph E. Smadel, M.D., a highly specific and effective treatment with chloramphenicol for scrub typhus, typhoid and Rocky Mountain spotted fevers, was first reported.^{6,7} Time has found, like water seeking its own level, specific criteria for the practical use of chloramphenicol in many clinical infectious diseases including purulent meningitis.⁸ With Richard B. Hornick, M.D., Sheldon E. Greisman, M.D., Fred R. McCrumb, Jr., M.D. and Merrill J. Snyder, Ph.D., a clinical model for volunteer studies in infectious diseases resulted in the most clairvoyant understanding of the infecting dose, pathogenesis, vaccine effectiveness and in-vivo antibiotic effectiveness in typhoid fever, tularemia and cholera.⁹ Other volunteer studies were carried out elucidating Q fever, influenza, malaria, shigellosis, Rift Valley fever and illnesses caused by enterotoxigenic *Escherichia coli*. A more recent research effort of his described a method for establishing an immediate diagnosis of Rocky Mountain spotted fever by simple punch biopsy of the skin eruption using immunofluorescence to visualize the rickettsial organisms.¹⁰ This illness is often confused with other viral exanthems and meningococcemia, hence, prompt diagnosis is critical. The technique can be expanded to other infectious diseases where rash is a feature.

One of Doctor Woodward's greatest contributions to the University of Maryland School of Medicine has been his keen interest in the support, pursuit, acquisition and exhibition of historical information pertaining to medicine and the University. His offices have the appearance of an archival museum. He initiated memorial lectures in honor of the late Maurice C. Pincoffs, M.D. and the late Joseph E. Smadel, M.D., the latter of which has been since continued under the sponsorship of the Infectious Diseases Society of America. Since 1954, he has photographed his house staff and chief medical residents, a collection which winds down a corridor on the third floor of the University of Maryland Hospital as documentation of past memories for "the chief" and those who pause to reflect.

Doctor Woodward raised approximately \$100,000 from his medical class of 1938, and directed a general solicitation by having designed and offered pewter plates commemorating the 1976 National Bicentennial Celebration in support of the Davidge Hall Restoration Fund of the University of Maryland Medical



T.E.W. as Chairman of Department of Medicine, early 1960's

Alumni Association. He has written historical accounts of his eight predecessors since 1812, who have served as Chairmen of the Department of Medicine¹¹⁻¹⁸ and his article entitled *Marylanders Defeat Philadelphia: Yellow Fever Updated* is an exciting account of the conquest of yellow fever. This documented account includes copies of letters written by Walter Reed, M.D. to his Yellow Fever Commission colleagues during the height of the discovery of the mosquito as the vector of this disease.¹⁹ Doctor Woodward was given the original letters by descendants of the James Carroll, M.D. family of Maryland. He has been responsible for the remodeling and dedication of three classrooms in memory of Francis J. Borges, M.D., Fred R. McCrumb, Jr., M.D. and John G. Wiswell, M.D., devoted members of his faculty who died prematurely at the height of their careers.

Accompanying the aforementioned accomplishments are the citations of merit and honor which Doctor Woodward has received. Each is singularly meaningful, and collectively, they reflect the substance and labor of the man. In 1945, he received the United States Army Typhus Commission Medal. In 1973, he was the recipient of the Outstanding Civilian Service Award of the Department of the Army, undoubtedly for his dedicated service as a Member and President of the Armed Forces Epidemiological Board and for his

advisory role for the United States Army Medical Research Program at Fort Detrick, Maryland. He was the recipient of the Louis Pasteur Medal, L'Institut Pasteur in 1961. The American Clinical and Climatological Association and the Interurban Clinical Club honored him by his election to the office of President in 1970 and 1969, respectively. He received the James D. Bruce Memorial Award from the American College of Physicians in 1970. The Maryland Society of Internal Medicine cited him as the Internist of the Year in 1976, and the University of Maryland Medical Alumni Honor Award and Gold Key were given to him in 1974. He has been the recipient of the Student Council Faculty Award of the Year eleven times from 1966 to 1985, and he has been given the Golden Apple Award for Clinical Teaching at the University of Maryland School of Medicine (following election by students) on ten occasions during the years 1967 to 1983.

Since this essay may serve as a documentary and a future point of reference about our principal, the reader's indulgence is appreciated as the compilation of Doctor Woodward's awards continues. He has been awarded honorary Doctor of Science Degrees

from Western Maryland College (1950) and Franklin and College (1954). He has been a Fellow of the American College of Physicians, served as Governor and Regent for the same Society and was elected to Mastership in 1980. Doctor Woodward was President of the Infectious Diseases Society of America in 1976 and delivered the First Maxwell Finland Lecture (Award) for that organization in 1972 entitled *An Historical Account of the Rickettsial Diseases with a Discussion of Unsolved Problems*.²⁰ Doctor Woodward influenced the establishment of an Alpha Omega Alpha Chapter at the University of Maryland School of Medicine and in 1950, he was awarded honorary membership.

Contrary to many persons in academic medicine who change positions cyclically, not always because of better opportunities but perhaps in search of new audiences, Theodore E. Woodward, M.D. was launched and berthed solely at the University of Maryland School of Medicine. The most important gauge of his accomplishments are immeasurable and fall in three categories: the number of student offspring he has properly trained and influenced to make the correct



TEW with Dr. Rene Dubos (Rocketeller Institute) who lectured frequently in Davidge Hall. (Picture courtesy, Dr. Yasushi Togo)

decisions for the patient in need; the number of student offspring he has motivated into appreciating the need for continuing education since medical school and postgraduate training are only a segment of what should be a lifetime of committed learning for physicians; and lastly, the number of student offspring he has conditioned to recognize the importance of unravelling the mystery of disease by formal research or by perceptive observation.

Our friend and professor has within his matrix features of selflessness, generosity and loyalty which have contributed to his success. He is compassionate in his feeling for people, events and institutions. Like a superb coach, he swells with pride upon the accomplishments of his academic family as attested by his book entitled *Two Hundred Years of Medicine in Baltimore* which outlines the outstanding contributions of the medical alumni and faculty of the University of Maryland School of Medicine.²¹ His endurance and stamina are phenomenal. The only thing Theodore Woodward wears out with above average speed are automobiles, pencils, shoe leather and young medical students.

In spite of World War II and his research work, responsible for his absence from Baltimore, often for long periods, Doctor Woodward's major interest in life was his family. His first responsibility has been to be a good husband and parent and with Celeste, who devoted her life to him, they raised their children, Bill, Craig and Sis, all physicians, happily married, with children undergoing the same life process.

In conclusion, please appreciate that it would require volumes to adequately summarize all of the professional interfaces and accomplishments of Theodore Woodward. These remarks represent only an interval report on a gentleman who has simply retired as Chief of Medicine but not retired from continued medical productivity. I want to acknowledge with deepest appreciation his immediate family—the physicians Woodward: wife, Celeste (also a member of the infamous Class of '38), daughter, Celeste, and sons, William and Craig, who exemplify our purpose of being: that to study medicine is indeed a privilege and to practice medicine is indeed an obligation. Mrs. Carol Young has served as Doctor Woodward's secretary throughout practically all of his tenure as the ninth Chief of Medicine in the history of the University of Maryland School of Medicine; her skill, loyalty, endurance and patience are exemplary.

For the historical record, Frank M. Calia, M.D. served as the Acting Chief of Medicine for the years 1982 and 1983, and in 1984, John A. Kastor, M.D. was appointed the tenth Chief of Medicine at the University of Maryland School of Medicine. The alumni and many friends of Theodore Woodward have contributed sufficient funds to endow a permanent Chair, The Theodore E. Woodward Chair in Medicine, and Doctor Kastor is the first person to have been named to the position.

To you, Theodore E. Woodward, M.D., we all say thank you and express indebtedness in behalf of people everywhere for your major contributions in medi-



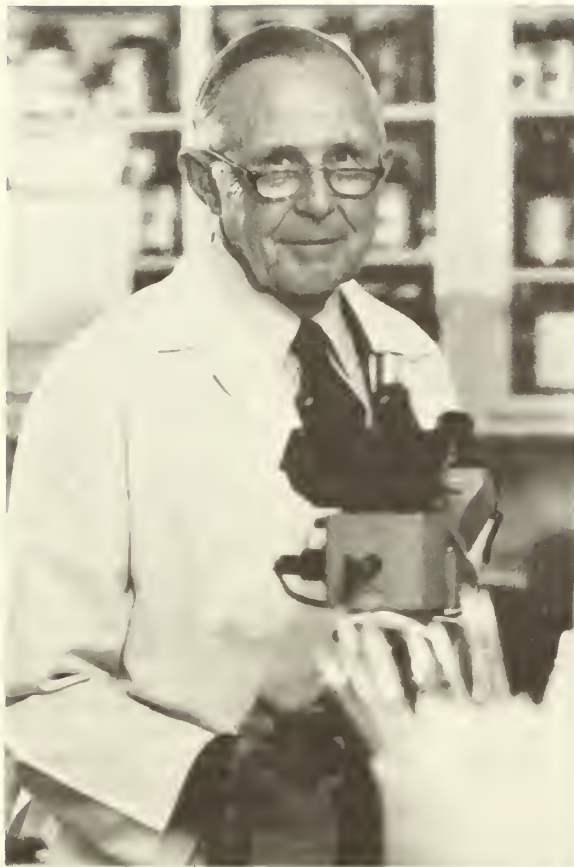
T.E.W. with President Wilson H. Elkins, 1979.



With Celeste L. Woodward, M.D., classmate and wife. Taken in Pakistan in 1981.



The Woodward Family of Physicians: (L to R) Craig, Bill, Celeste, T.E.W., Sis, taken at One Merrymount Road, 1981



T.E.W. taken at West Virginia University School of Medicine, Morgantown, March, 1986.

cine. Now, in another chapter of your life, unencumbered by administrative burdens, we look forward to your continued contributions and to our continued associations.

Leonard J. Morse, M.D.
February, 1986

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ADDENDUM

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SCHOOL OF MEDICINE
BALTIMORE, MARYLAND 21201

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PROFESSOR OF MEDICINE EMERITUS
(301) 685-1289

September 30, 1983

(REPLY TO:)
UNIVERSITY OF MARYLAND HOSPITAL
22 S. GREENE STREET
BALTIMORE, MARYLAND 21201

T. Albert Farmer, M.D.
Chancellor
University of Maryland at Baltimore
Davidge Hall

Dear Chancellor Farmer:

At the time of my retirement in 1981, you kindly expressed your pleasure that I planned to remain at the Medical Center with association as a Senior Physician with the Veterans Administration. You commented then that I might be helpful as a resource of information regarding the medical school, its heritage and its future.

Numerous persons, members of the medical, nursing and legal professions, a university president and laymen in Baltimore have commented directly to me about developments here on the campus. These expressions added to my personal reactions now impel me to express a viewpoint. Failure to do so now could represent a dereliction on my part. You know of my long tenure on the campus and deep interest in the medical school, the hospital and their relationship to the city and State of Maryland. This relationship merits no discussion. Comments are made in the spirit of objectively evaluating the past, current status and possible future. They will be objective and accurate as best known to me. These comments are addressed to the role of the medical center in the Maryland environment.

Historically, the General Assembly in Annapolis granted a few professors in Baltimore the right to recruit a Faculty of Medicine, receive medical students for instruction in Medicine and grant the degree of Doctor of Medicine. The school began in 1807 and soon it found its place in American Medicine. There were only four other medical schools in America at the time. It soon achieved a position of prominence because of its excellent instruction in a few of the basic sciences, then known, and particularly in the clinical disciplines of Surgery, Medicine, Materia Medica and Obstetrics. Our school was among the first in the country, if not the first, to have its own hospital, then known as the Baltimore Infirmary, on the southwest corner of Lombard and Greene Streets. It was the first institution to recruit resident physicians, known now as house officers, as interns and residents. Furthermore, in the 1820's, it initiated a nursing program for the hospital. This made an excellent institution for the didactic and practical clinical instruction of medicine which led to the medical degree.

From its beginnings, Maryland graduates have excelled in their skills and that reputation prevails today. Most of the clinical instruction revolved around the care of indigent patients who were hospitalized in the Baltimore Infirmary. Also, the few professors admitted their private patients to the Infirmary which later became the University of Maryland Hospital. Clinical instruction was solid and of practical intent. Many graduates trained under this system which produced leaders, such as Power, Wright, Darling, Frick, Chew, Carter, Councilman, Friedenwald, Thomas, to mention only a few stellar physicians of the nineteenth century.

It was not until 1910 with the Flexner Report that full-time salaries were incorporated in the basic sciences. There were no salaried physicians in the clinical sciences. The medical school was at a very low level of teaching performance in 1910. It did adhere to the dictates of the Flexner Report and amalgamated its resources with the Baltimore Medical College (Maryland General Hospital) in 1915, and the College of Physicians and Surgeons (Mercy Hospital) in 1917. This strengthened the program considerably because it made practicing physicians available who were competent as teachers. In 1922, the Legislature came close to closing the medical school and

hospital because of the perception that there were enough physicians in the city and state, the Hopkins was fulfilling a major role and the University of Maryland Hospital Program was superfluous. The physician who stepped into this breach was Dr. George Wilson, who, in a scholarly way and in discussions with legislators, pointed out that the majority of practicing physicians in Maryland were University of Maryland graduates and that their standards of clinical practice were high. Vote in the Maryland Legislature was close, settled by one vote in favor of the school and hospital.

During all this period, 1910 to 1945, the school and hospital progressed as a unit toward their goal of training and graduating candidates who would develop as well-qualified physicians. Research was not existent during this period other than clinical case studies, some of which were notable examples of applied basic science. Some little basic research was undertaken, particularly in the Departments of Anatomy and Pharmacology. At this part of the twentieth century, physicians who possessed clinical skills were developed, particularly with the two year rotating internships and practical training programs in Surgery, Medicine, Pediatrics, Gynecology, Obstetrics and Psychiatry. In the 1930's, about 70 per cent of graduates entered general practice, the remainder entered subspecialties and a few chose academic medicine with successful pursuit of teaching, research and clinical practice. World War II hit the school and hospital hard. Many entered the military services and a few dedicated men and women held the line at the school and hospital retaining the basic structure of good teaching. Research had not come to the clinical departments.

During all of this period, 1920 to 1945, patients were referred to the hospital by physicians from all outlying areas of Maryland, most of whom had graduated from our school. It is fair to say that in excess of 70 per cent of referrals to the free services in Surgery (fourth floor), Medicine (third floor), Pediatrics (fifth floor) and Gynecology/Obstetrics (sixth floor) were derived from outside Baltimore from our graduates. The same could be said for the eighty beds, more or less, which represented the private medical service, i.e. patients were referred to the Attending Physicians and teachers, such as Stein, Pincoffs, Carey, Settle, Gundry, Sacks and Krause, by physicians throughout Maryland. The same proportion of referrals was true for other clinical services, either free or private. These men and other clinical colleagues would frequently visit the various county medical societies and became very well-known, thereby gaining referrals.

The private surgical service was large and active through direct referrals by county physicians throughout the state primarily to Doctor Shipley, C.R. Edwards and Frank Lynn. Many other Attending Surgeons were similarly active. *Never was the medical service the significant source of referral to the surgical department but such consultative services were regularly performed.* After World War II, such referral patterns persisted until full-time chairmen were appointed beginning in 1954. Doctor Buxton became the full-time Chairman of Surgery in 1955. From this point, the part-time Attending Surgeons gradually gravitated elsewhere and the census of referred surgical patients declined. Under Doctor Mason, a similar pattern prevailed. Such patterns of practice occurred in Pediatrics, Gynecology and Obstetrics. Medicine was able to fill its full quota of beds and more but *large numbers of surgical patients did not evolve from this source.* Many of us, including Doctors Sacks, Spurling and other department members, were well-known throughout the state and drew many patient referrals.

Major forces behind the prior favorable referral system were:

- (a) The presence of Maryland and University Hospital alumni in Baltimore and throughout the state.
- (b) Less effective competition by community hospitals.
- (c) Changing social patterns.
- (d) Because university physicians actively taught and lectured to hospital groups and county societies throughout Maryland and invited them to come and visit their patients.

Medical students of the second, third and fourth years received most of their clinical instruction in the hospital in this type of environment. The aforementioned physicians and others dedicated to the school and hospital provided the education.

With cessation of the war, many service physicians then returned to Baltimore to resume their medical careers. In the military services, these physicians had the opportunity to experience new fields of medicine which included research experiences in Surgery, Internal Medicine, Tropical Medicine, Epidemiology and Psychiatry. These experiences by many persons served more than anything else to inject an increased spirit of clinical study or investigation into the strong teaching base which the school and hospital always enjoyed. Standards of medical practice remained high in the minds of all faculty members.

From 1946 to 1948 and on, it became clear at Maryland and other similar medical schools, that research must become a relevant and major segment of the program of any such educational institution if it was to compete successfully in training for a rapidly changing profession. The Board of Regents in 1947-8 recognized this need and resolved that full-time salaried physicians must be incorporated in the clinical departments along side the basic science departments if the school and hospital were to be competitive and recruit the type of high caliber student, house officer and faculty needed to achieve these high goals.

Appended for your information is a chronological listing of those faculty persons who accepted full-time posi-

tions in the clinical departments for the first time. (See Appendix) This was not an easy transitional process because of the longstanding and devoted performance of non-salaried practitioners who willingly devoted up to 50 per cent of their time just for a faculty position and the privilege to teach and use the hospital for their private patients which was served by an efficient house staff. Teaching until 1950 and a little later was with free medical service patients but in 1950, private patients were incorporated into the teaching program. This was due mostly because of necessity since the numbers of medical students expanded and adequate numbers of patients were necessary for acceptable clinical instruction (a figure of 3.5 patients per student, junior and senior year combined was regarded as adequate). (See McLean Report. A survey was performed at the cost to the hospital and school of \$10,000.)

Into this setting in 1948, Doctor Pincoffs asked me to join the faculty in Internal Medicine and in his own words his charge was "To get the Department of Medicine involved in research, and in residency and postgraduate training programs." This was a tall assignment and I consider it a privilege to have been asked to play a role in the school's and hospital's redevelopment. In 1954, the Regents chose to select me as the first full-time Chairman of Medicine. Speaking before the entire department staff, which included all non-salaried physicians, it was stated "My role will be, with your help, to *train young men and women to become good physicians, to conduct research and in so doing, to render the highest standards of medical care.*" They were advised that their contribution to this process was vitally important.

Until this time in 1954, referrals to the free medical and private services came from outside Baltimore and neighboring states, such as West Virginia and Pennsylvania, as well as from the very busy emergency room and medical and surgical ambulatory clinics.

Personnel and facilities expanded, opportunities were developed to pursue intricate diagnostic problems, particularly with the acquisition of new technical equipment. Fund sources for such were from the State of Maryland and contracts and grants. In place of the older named physicians, the larger private medical practice were those of Carey, Swisher, Sacks, Lisansky, Waller, Townshend, Jiji, Borges and Raskin, all who attracted a rather large clientele. Training programs in general medicine and in the subspecialties developed and attracted excellent candidates. Some joined our institution as junior faculty members and others took their places in local and outlying hospitals, such as Mercy, Maryland General, Sinai, South Baltimore General, St. Agnes, Good Samaritan, Franklin Square, Carroll County, Washington County, Easton, Salisbury, York Hospital and others. Not only did well-trained men and women join the staffs of these community hospitals but they helped develop competence and specialty programs with creditable diagnostic facilities in each.

These teaching and technical advances in other hospitals stimulated and supported significantly by our medical school and hospital had served to attract patients away from the University Medical Center. This was true evidence of the university having served its leadership role but in a sense also served "to bite the hand that fed them." With growth and expansion, the Baltimore and community county hospitals not only did the pattern of patient referrals change but *key faculty members chose to leave the university setting. With them went a large number of patient referrals from the respective referring Maryland physicians.* This development became very significant. This trend along with society's decision to correct segregation practices from its prior inequalities served over a period of time to shift the trend of referrals considerably.

Beginning in about 1960, a hospital census count indicated that the majority of patients on the ward, medical and private services were derived primarily from Baltimore City and its immediate urban areas. The latter area as a source of referrals later changed in favor of well-appointed community hospitals where many of our graduates were welcomed. By this time in 1960 to 1965 about 15 per cent of private patients were derived from Maryland state residents, about 6 to 8 per cent from outside Maryland; the bulk of patients were derived from Baltimore City proper. Even today, two part-time geographically placed Attending Physicians account for almost one-half of patients on the private medical floors; they make no significant contribution to the teaching program.

The Department of Medicine and other clinical departments lost by attrition and faculty resignations the remaining cadre of Attending Physicians who chose to go elsewhere. Such limited benefits as *no parking facilities, poor medical records practices, none of the other fringes, no outward displays of courtesy, inadequate numbers of beds for their patients* and a clear unwillingness of patients to be hospitalized in a downtown busy metropolitan hospital were all factors in this trend which cannot be halted. Few real and lasting promises could be made to make the downtown setting attractive and it was not possible to compete for patients when up against "wall-to-wall carpet", facilities elsewhere, inside and outside Baltimore.

In late 1950, a move was made to attempt to build a professional building in order to provide offices and some diagnostic facilities for fifty to sixty private Attending Physicians who might spend their entire time in the university setting. The contemplated site was the present underground garage. It was conceived that physicians then in the Medical Arts Building and elsewhere would come to the center, use the hospital's diagnostic facilities and beds for their patients. In spite of some interest and results of a survey, this proposal received no administrative support and with its failure, those interested physicians went elsewhere most not to return. *With them went the large cadre of private referral patients.*

Each clinical department recruited geographical full-time staff members. Their contracts provided a basic salary, an office, secretary, occasionally a technician and a practice privilege up to an agreed upon salary level. This type of system I favored and was the reason why I joined the faculty on Doctor Pincoffs's invitation. The privilege to practice was present but soon a basic lesson was learned. It was that if teaching and research are to be accomplished in a manner essential to the program of any medical school and teaching hospital, it followed that private practice and practice for dollar income per se cannot be the main goal. *It occurs to me that if financial return on the part of the key members who helped build the department's program had been their prime goals, success and its growth would not have occurred.* Full-time faculty members performed their teaching well and in many instances the research was very creditable and often outstanding as evidenced by the favorable decisions of granting agencies. For a twenty year period, the Department of Medicine generated 25 per cent or more of the entire off-campus research funds.

In this never setting, private practice continued but not at the former levels. Freely I admit my goals were to teach and conduct relevant and meaningful research and help demonstrate high standards of practice. The primary goal was not perceived as financial objectives since we viewed our role and purpose of existence as the State of Maryland's medical school and teaching hospital. Teaching and practice services in the medical clinics and emergency room were conceived as essential settings for the clinical teaching of students and house staff and for maturation of faculty.

Salaries were shared by the medical school and hospital with dual appointments in each, commitments were made in each direction *and the hospital was regarded as the clinical arm of the medical school.* This worked very well and research as well as contract funds generated by certain clinical departments served to pay salaries for secretaries, technicians and ancillary personnel. Many directly served the hospital and its free patients. Granting agencies accepted this arrangement for classified and professional personnel as long as the objective of the research was accomplished. It was. There is no way to measure the technical and administrative financial advantages which the State of Maryland and its citizens received through the benefits of this outside support, i.e., research grants and contracts.

Teaching performance, research accomplishments and high quality care constitute an academic institution. Always Maryland has been compared to our sister institution, the Johns Hopkins. We became favorably compared with Hopkins. Our teaching of medical students and house officers was probably better, they had the edge on research but never have we had to apologize for the quality of patient care. One needs only to ask educators inside and outside Baltimore about these points. These attributes were all made possible through the hard work and dedication of many. Late in my tenure as chairman, I noted some standards to fall. Teaching seemed no longer to be a pleasure and privilege in the minds of a few. Part of the cause came from demands for the need to generate more income by the hospital and by individuals. We entered an era of cost-effectiveness, an attitude to fill beds, rapidly turnover patients and "make money." Terms such as "provider" and "consumer" became commonplace, all terms and connotations to my mind which disfavor the heritage of medicine. Physicians are physicians and patients are patients. The priority concept of "service to patients and students is diminished by an exaggerated emphasis on the priority of profit." These newer forces, in the minds of many, have helped make Medicine a guild or business and no longer the respected profession. It placed distances between patients and physicians. Attitudes of faculty changed and research by many came almost to a standstill because of demands for greater income and fiscal balance.

Be assured that I am well-aware of the need for accuracy and efficiency in billing and contractual practices. Freely I admit to not being a good business man and had rather chosen to focus upon those principles which make up an academic institution. The record will show that the Department of Medicine, its costs, patient for patient, and specialty by subspecialty, patient stay for patient stay and laboratory costs for patients compared favorably with Hopkins. The study was made, which I conducted, and reports were submitted to the Medical Director and Hospital Board.

The hospital itself was greatly derelict in its billing practices and collections which was a major factor in placing it in a bad light with the Maryland Legislature and the public. This fact, along with two acts of embezzlement, made our fiscal practices questionable in the eyes of Annapolis and the public. Some of this can be attributed to forces which allowed loopholes in the Medical Service Plan and the demand upon greater income. These forces should not be the principal focus of any academic center but proper fiscal standards and practices are essential.

With all of these changes came a change in attitude and the attitude toward teaching and clinical study. Without a proper attitude, an academic institution hardly exists. *Practice for financial return and a balanced budget do not necessarily constitute academic teaching or service excellence. An atmosphere with a chief aim of fiscal accountability, per se, is not an atmosphere conducive to scholarship. Scholarship and attitude are absolutely essential for academic excellence.* On these points, I know you agree.

Leaner years came in about 1975, as far as the ease of obtaining grants and contracts from national agencies. Yet, several units of the department competed well and have received good support. Newly reorganized basic science departments began to recruit off-campus research funds.

Increasing numbers of indigent patients visited the clinics and emergency room. Actually, there was no other recourse for them because community hospitals had learned to require payment for services. Often patients were advised by other hospitals to go to the university and this practice not only continued but was hardly a departure from the past. The hospital emergency room served on a twenty-four hour basis as the family physician for inner Baltimore. *The hospital profited as it had throughout its history by receiving a continued source of patients for teaching medical students and house officers; a perfectly natural and conventional system.* Let it be said that the majority of these patients had no significant financial resources, including insurance coverage, but under the law and for humanitarian reasons were entitled to medical care and good medical care. This was their right and there was no way, nor should there have been, that medical care be refused. The Baltimore press would quickly have made issue of such practice. *Somewhere along the line, there was failure to fully inform the respective agencies and legislature that this medical care was a public obligation and not to be written off simply through the state's appropriation to the university.* Medicare and Medicaid Programs did not provide for many of such persons in need. A major mistake was made in not objectively and comprehensively communicating these problems to higher authority and at the same time to inform them, with full understanding that a medical school and its teaching hospital are not community hospitals. *Proper provision of medical care for indigent patients serve dual purposes, the patient and medical education.*

Necessity and the desire to exert a leadership role in Baltimore and outlying hospitals in Maryland dictated the aim to help develop affiliated hospital programs. The Baltimore Veterans Administration Hospital, Mercy Maryland General and South Baltimore General Hospitals all fitted into the theme of teaching and patient care. Without the VA Hospital, the center would have faltered as a teaching institution. Mercy Hospital, the oldest and rather valuable affiliate hospital, helped considerably initially with teaching sophomore, junior and senior medical students. In recent years, it has carried a significant load for senior teaching.

Yet, sight must not be lost of the fact that *the bulk of meaningful teaching takes place in the parent institution.* For Internal Medicine that means the University and VA Hospitals. These programs are comparable and basically equal in their standards of teaching, research and medical care. *The VA Hospital is a most valuable resource without which the medical school could hardly expect school or residency accreditation.* Without it, the only recourse would be to drastically cut class size, a policy which is now underway and correctly so. The point is that *responsibility for the best standards of medical education reside with the parent university and these responsibilities cannot be delegated or adequately monitored elsewhere.* During recent years, it has been my privilege to visit other institutions as professor pro tem. It was found that such affiliated type responsibilities in outlying areas, below an acceptable standard, were present in two eastern and one mid-western medical school. *Maryland should not accept the premise that affiliated hospitals can best serve the obligated responsibility to students whom we admit.* If that premise is true then we should seriously examine our standards. This is not to say that instruction for senior medical students and selected house officers cannot profit from special training elsewhere.

In all medical schools, the clinical clerkship in Internal Medicine during the junior year is the most significant rotation. It is the time when the clinical skills, such as elaboration of the medical history, performance of a thorough physical examination and interpretation of findings are firmly implanted with the assistance of competent teachers. At this stage, important principles are either implanted or not. You know of my background of experience and certain assets as they relate to teaching of medical students and house staff. For more than three decades, I have taught medicine as an Attending Physician at the Mercy and Maryland General Hospitals in Baltimore, and for lesser periods at the Good Samaritan, Union Memorial, South Baltimore General and Prince Georges County Hospitals. In these hospitals, the fundamentals of clinical medicine are not taught as well nor are there means to monitor or fortify the areas of weakness. Part of the reason is because these community hospitals lack the depth of teaching clinicians, such physicians are oriented primarily to private medical practices, the house staff is not oriented toward this type of teaching and the diagnostic backup facilities are not available which are very necessary for the modern training of students and house officers.

For at least ten years, Maryland students received all of their clinical clerkship in Medicine at the Baltimore City Hospitals alongside Hopkins students. Our students did not accept their training in the manner of those who trained at the university because they felt regarded as "second-class citizens." Attending Physicians there had limited contact with the students, hardly knew their names and practically all of the instruction was by interns and residents. The evaluation forms revealed these facts so vividly. When the Baltimore Veterans Administration Hospital was developed by us, that institution became our second teaching base particularly for junior students. Not only did standards of medical education rise but eager acceptance by students followed. Dr. Morton Rapoport is well-aware of these matters and as Chief of Medicine at the Veterans Hospital continually stressed the importance and need for maintenance of such teaching standards. "Proper parents are much better prepared to raise children than are in-laws." These responsibilities cannot be subtle.

As mentioned, the pattern of referral of patients to University Hospital is now different. Another responsible force for that change is that chairs and senior faculty positions have been filled with professionals not known to the

Baltimore and Maryland community. This is not a derogatory criticism but an observation that this development alone has gradually led to many practicing physicians not knowing those faculty members who work at the center. Such urban and rural referrals now are to Sinai, Union Memorial, Greater Baltimore, St. Joseph, Mercy, Franklin Square, Lutheran and other city hospitals and to county hospitals. *Many physicians on these respective hospital staffs learned their clinical and diagnostic skills at the University and are now in practice and are not related to the University Hospital.* It is very doubtful that a large referral practice of the type previously described will return to the university. This is an expression of my honest belief and some concern.

You know that I perform annual executive examinations for the McCormick and Company, Potomac Edison Company, the Baltimore Gas and Electric Company and C. M. Kemp Manufacturing Company. Many of the executives do not come willingly to our center for examination and ancillary diagnostic services. They have informed me that when nature or something else stops me *these services will be sought elsewhere.* These executives represent leaders in their respective communities and they are expressing a fact hard but one necessary to accept, i.e. patients do not come happily to our environment, *they come to consult the physician and not the institution.*

Please be aware that I appreciate and understand this reaction. Moreover, I accept it since our institution is not one equally competitive with a well-appointed and staffed community hospital. Each is different and I am glad they are. *Our role in Baltimore and Maryland is different.* We need to understand our capabilities, our potentials and devise our goals to meet them, at the same time *not losing sight of the fact that we are a teaching university hospital.*

To be sure, our facilities must be attractive as are our splendid diagnostic technical machines shielded behind our walls. All patients are entitled to comfortable surroundings. Our mission must be the daily, sensitive, accurate and practical diagnostic care delivered at the lowest cost possible. *We must be scholarly, imaginative and innovative.* The latter are not the goals or responsibilities of community hospitals.

Certain specific points are respectfully raised for your consideration. They are:

1. *Do not separate the hospital from the medical school in either a philosophical or practical relationship as they relate to medical education and postgraduate training.* They are inseparable and mutually dependent upon each other.
2. *Somehow find a way to recruit resources to properly care for indigent patients and avoid removing the clinic patient from the main stream of medical center and hospital patients.* Tuberculous patients were once erroneously removed from the center of medical activity to the mountains and it took sixty years to correct that mistake. Psychiatry almost suffered a like fate. *State and city authorities should be informed of their responsibilities for the care of the indigent.* Medical patients in need should not be denied their important relationships with medical students, house officers and faculty. Allen Gregg expressed this view so well in speaking of the importance of a teaching hospital.
3. *Seeking financial resources from the private sector should not be the hospital's prime goal.* It is a valued and necessary attainment but hardly the top priority. *Teachers should practice but if they practice too much, they often fail to fulfill their educational and research goals.* If practice is their sole objective why not encourage them to serve in community hospitals.
4. *Redefine the hospital and school's mission, educational pursuits, research attainments and practice, in about that order of priority.* Clinical services without research pursuits hardly qualify as academic units. Attainment of President John Toll's high aims for the University Medical Center will be best achieved by acceptance of these values. Excellence of performance rather than quantity of service will best serve these aims.
5. *Utilize affiliated community hospitals for what they can offer.* This is training for advanced students and selected house officers and fellows. Basic educational activities both fundamental and clinical should remain at the center.
6. *Persist in the objective to develop the highest quality of services at the center and all clinic areas. Retain a core of solid educational balance in general pediatrics, general surgery and general medicine without relegating this responsibility elsewhere.* To do so, will lead to even greater specialization which will include much too early choices for the subspecialties by those in training. There is now a much too early choice toward specialty practice with attendant weaker training experiences.
7. *Give consideration to development of an efficient and fiscally competitive, personalized medical plan for employees of the State of Maryland and the Social Security System.* Patients wish to consult with an interested physician and not an institution. Mercy and Union Memorial Hospitals are actively recruiting blue and white collar clientele from inner Baltimore.
8. *It is unlikely that the medical service, per se, will generate sufficient numbers of patients to satisfactorily support general surgery.* It has not in the past. Forecasts are better for needed consultative services in such

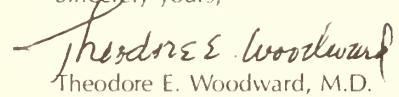
surgical subspecialties as cardiovascular surgery, oncology, ear, nose and throat and urology. Staff physicians of the Veterans Administration cannot be expected to engage in private medical or surgical practices, nor is this their role.

In closing, it should be said that creative curiosity is the essence of medical education. If this spirit is to survive and flourish in the clinical sciences, it is essential that we maintain the health of medical education. *Our school and hospital should not stray from their primary functions which are teaching and medical research and the continued stimulation of an insatiable curiosity in our young physicians. They must be a part in the practice of good medicine.* Success in these established aims requires a climate which encourages and assists in the quest for new knowledge so as to insure transfer of such wisdom to generations which follow. Most other considerations which concern academic centers are secondary.

Do not misjudge the future by failing to realize the capabilities, strengths and weaknesses of the medical center in terms of its mission as a teaching hospital and the limits of its potential as a private referral center governed in part by certain sociological factors beyond control.

Be assured that I wear no cloak of dogmatism for the views expressed. They are an honest portrayal of concepts which are not unique to us. Perhaps they might stimulate a dialogue within the faculty and your good offices which might serve a useful purpose.

Sincerely yours,



Theodore E. Woodward, M.D.

TEW/mcy

Enclosures

cc: Chairman Joseph Tydings
President John Toll
Dean John M. Dennis
Vice Chancellor Morton I. Rapoport

SPECIAL TRIBUTE TO DIVISION HEADS AND FACULTY

Through their untiring and devoted contributions to the organization and functions of subspecialty sections, to the teaching of medical students, house officers and faculty, and to clinical investigation, each division head working in collaboration with associates within the department has made it possible to provide a creditable and productive comprehensive program for the medical school and hospital. Without their contributions, the department would not have a program. Their work is gratefully acknowledged.

Following are listed the members of the Medical

Faculty, Housestaff including Fellows for the years 1978–1980. Included is the roster of visiting educators who made presentations at Medical Grand Rounds. The former Pincoffs lecturers are listed. Not included are the departmental and specialty programs which were similar to those described in the preceding chapter. This abbreviated report is the last published annual Department of Medicine report under Dr. Woodward's tenure. He retired in September 1981. The first detailed departmental report was published in 1954.

Department of Medicine University of Maryland School of Medicine Faculty

Professors

Drs. Theodore E. Woodward, Chairman, James C. Allen, Gould A. Andrews, Nuclear Medicine, Eugene Bereston, Dermatology, Joseph W. Burnett, Head, Division of Dermatology, Frank M. Calia, Head, Department of Medicine, Baltimore Veterans Administration Hospital, Thomas B. Connor, Head, Division of Endocrinology and Metabolism, Edward F. Cotter, Emeritus, Jay S. Goodman, Sheldon E. Greisman, Richard B. Hornick, Head, Division of Infectious Diseases (July, 1963–December, 1978), Frank L. Iber, Head, Division of Gastroenterology, Gerald S. Johnston, Head, Division of Nuclear Medicine, James R. Karns, Ephraim T. Lisansky, Emeritus, Joseph A. Mead, Jr., Morton I. Rapoport, Senior Associate Dean, Harry M. Robinson, Jr., Dermatology, Leonard Scherlis, Head, Division of Cardiology, Stephen C. Schimpff, Head, Division of Infectious Diseases, Albert Shapiro, Dermatology, Merrill J. Snyder, Clinical Microbiology, William S. Spicer, Jr., Peter H. Wiernik, Head, Division of Hematology/Oncology.

Associate Professors

Drs. Joseph Aisner, Mohamed S. Al-Ibrahim, Sheldon Amsel, Richard A. Baum, John S. Britten, Edward U. Buddemeyer, Gary J. Calton, Dermatology, Ellis S. Caplan, Nathan H. Carliner, Paul Chang, Ben R. Dawson, Michael L. Fisher, Head, Division of Cardiology, Baltimore Veterans Administration Hospital, Bruce P. Hamilton, Head, Division of Endocrinology, Baltimore Veterans Administration Hospital, Felix P. Heald, Victor Hrehorovich, Rouben M. Jiji, Stanley B. Kahane, H. David Kerr, Herbert A. Kushner, Richard

D. Leavitt, Yu-Chen Lee, Myron M. Levine, Luis G. Martin, Samuel Morrison, R. David Nalin, Donald M. Pachuta, Robert T. Parker, Robert W. Peters, Emilio Ramos, Howard F. Raskin, Joan Raskin, Dermatology, Julian W. Reed, Edward Rusche, Robert M. Russell, John H. Sadler, Head, Division of Nephrology, Richard E. Sampliner, Charles A. Schiffer, David G. Simpson, Head, Division of Pulmonary Diseases, Robert T. Singleton, Andrew Smith, Clinical Microbiology, Harold C. Standiford, Head, Division of Infectious Diseases, Baltimore Veterans Administration Hospital, Mary Betty Stevens, Head, Division of Rheumatology, Charles L. Whitfield, Stanley N. Yaffe, Dermatology, George D. Yannakakis, Philip D. Zieve.

Assistant Professors

Drs. Robert M. Adrian, Dermatology, Aristides C. Alevizatos, Albert Antlitz, Celeste L. Woodward Applefeld, Pediatrics and Medicine, Jack Applefeld, Mark M. Applefeld, John L. Atkins, Alva S. Baker, Cyrus E. Beekey, Jr., Emidio A. Bianco, Robert E. Black, John Wolfe Blotzer, George M. Breza, Cedric W. Bryan, Joseph H. Burkle, Nijole B. Carozza, Mary Lou Clements, Miriam L. Cohen, Donald H. Dembo, Anthony DeMunecas, Charles H. Diggs, Mouta Dilaimy, Dermatology, Salvatore R. Donohue, Renan J. Dureza, Sudhir K. Dutta, W. Carl Ebeling, III, C. Gregory Elliott, George Entwisle, Barry H. Epstein, Robert J. Esterhay, Jr., Bernard P. Farrell, Wilbur Fiscus, Carmen Fratto, Ronald W. Geckler, Michael L. Glick, Ronald Goldner, Dermatology, Davis M. Hahn, Frank Hamilton, Samuel Hankin, Robert A. Hartley, Michael G. Hayes, Alfred D. Hernandez, Dermatology,

Meyer R. Heyman, Wally S. Hijab, Thomas E. Hobbs, Gerald A. Hofkin, Alfonso H. Janoski, John Josselson, Kenneth P. Judd, Dermatology, Richard S. Kaplan, Michael H. Keleman, Michael E. Klein, Leon Kochman, Thomas J. Kulle, George D. Lawrence, John A. Levi, Anthony A. Lewandowski, J. Leonard Lichtenfeld, Karen Lichtenfeld, Paul D. Light, Noel D. List, John P. Manzella, Martin Y. Magram, Eugene V. Mazzocco, John H. McConville, John A. Merritt, James H. Mersey, Sheldon D. Milner, Sohrab Mobarhan, Allan S. Moodie, George W. Moran, Marguerite M. Moran, Stanley Morrison, John H. Mulholland, Joseph D. Notarangelo, Michael J. O'Connell, Samuel I. O'Mansky, Chris Papadopoulos, Carolyn J. Pass, Dermatology, Gary D. Plotnick, David B. Posner, Ronald S. Pototsky, James A. Quinlan, Jr., Margaret B. Rennels, Roy Robins-Browne, Elizabeth Rogers, Jerry Salan, Marcia C. Schmidt, Robert M. Shannon, Charles E. Shaw, Joseph Shear, Yu-Liang Shen, Emanuel H. Silverstein, Dermatology, Bahram Sina, Dermatology, Roland T. Smoot, Wayne C. Spiggle, Frederick J. Sutton, Kyle Y. Swisher, Jr., James H. Tenney, M. Eugenio Tudino, Dermatology, Barbara K. Urbaitis, David Van Echo, Larry J. Warner, John W. Warren, Richard B. Williams, Terry L. Wilson, Celest L. Woodward, Michael Yen, Thomas M. Zizic.

Instructors

Drs. Perry Austin, Lawrence F. Awalt, Ira J. Berman, Dermatology, Richard D. Biggs, Jr., Lynn M. Billings-

ley, William Dear, George L. Drusano, William R. Dunseath, Park W. Espenschade, Jr., Renato R. Espina, Raul V. Felipa, Vincent J. Fiocco, Luis F. Gonzalez, William Gould, Dermatology, Darrell M. Gray, Louis Grenzer, Mohammad Inayatullah, Rustum Irani, David E. Johnson, Miguel Karacuschansky, Bernard S. Karpers, James J. McPhillips, John J. Messina, Marc A. Mugmon, James J. Nolan, Frederick N. Pearson, Dermatology, Louis N. Randall, William E. Randall, Jr., Luis E. Rivera, E. Lee Robbins, Charles S. Samarodin, Dermatology, Elijah Saunders, Ajaib S. Sidhu, John H. Stone, Robert E. Stoner, William A. Valente, Barry J. Weckesser, Irving D. Wolfe, Dermatology, Charles R. Young.

Associates

Drs. George Agapitos, Charles J. Blazek, Francine Camitta, Joseph C. Furnary, Walter Karfgin, H. Roebeling Knoch, Paul A. Mueller, Michael F. Plott, Ramon F. Roig, Lee Samelson, Stanley R. Steinbach, Wilfred H. Townshend, Stephen J. Van Lill, Ralph Weber.

Research Associates

Drs. David G. Cargo, Dermatology, Jennifer H. M. Hamilton, Timothy P. Hughes, Gregory J. Kuzbida, Richard W. Pavlis, John C. Rhead.

Fellows in Medicine 1978–1979

Drs. Adeleke Adeyemo, Gastroenterology, Toby Alligood, Dermatology, William C. Anthony, Infectious Diseases, James L. Atkins, Nephrology, Samuel I. Benesh, Cardiology, Robert M. Borushok, Pulmonary Diseases, Ronald E. Bost, Dermatology, Frederic S. Brown, Dermatology, William G. Brown, Dermatology, Jerome W. Buzas, Dermatology, Jerome Carroll, Gastroenterology, Luis A. Cisneros, Infectious Diseases, Jeffrey F. Cole, Cardiology, Boniface Costa, Gastroenterology, Walter J. Douglas, Gastroenterology, George L. Drusano, Infectious Diseases, Ira T. Fine, Rheumatology, William H. Goldiner, Endocrinology, Elliott Gorbaty, Pulmonary Diseases, Manuel Guzman, Infectious Diseases, Dalia Kallayee, Dermatology, Fahim Khorfan, Pulmonary Diseases, Timothy E. Knight, Dermatology, Russell H. Kramer, Gas-

troenterology, Atef S. Labib, Cardiology, Duangmarl P. Malayaman, Endocrinology, Alberto Mendez, Endocrinology, Sheldon D. Milner, Hematology/Oncology, George W. Moran, Cardiology, Frank H. Morris, Cardiology, Bharat Parekh, Pulmonary Diseases, Stephen H. Pollock, Cardiology, Clayton L. Raab, Cardiology, Robert W. Reindollar, Gastroenterology, Margaret B. Rennels, Infectious Diseases, Alfred J. Saah, Infectious Diseases, Edward W. Schaefer, Pulmonary Diseases, Yu-Liang Shen, Nephrology, Steven B. Sotman, Infectious Diseases, Rose D. Spitz, Gastroenterology, Surapol Suwanagool, Infectious Diseases, Robert P. Strier, Dermatology, Joseph L. Theochung, Nuclear Medicine, William A. Valente, Endocrinology, Donald J. Williams, Nephrology.

Fellows in Medicine 1979–1980

Drs. Toby Alligood, Dermatology, Haitham Al-Midani, Gastroenterology, William Anthony, Infectious Diseases, James L. Atkins, Nephrology, Robert M. Borushok, Pulmonary Diseases, Ronald E. Bost, Dermatology, Frederic S. Brown, Dermatology, William G. Brown, Dermatology, Jerome W. Buzaz, Dermatology, Luis A. Cisneros, Infectious Diseases, Ira J. K. Cohen, Dermatology, Jeffrey F. Cole, Cardiology, Michael E. Cox, Gastroenterology, William G. Flowers, Cardiology, Robert B. Garrett, Cardiology, William H. Goldiner, Endocrinology, Elliott Gorbaty, Pulmonary Diseases, Paul D. Levinson, Endocrinology, Robert Mathieson, Gastroenterology, James L.

McDaniel, Pulmonary Diseases, Alberto Mendez, Endocrinology, E. Huxley Miller, Infectious Diseases, George W. Moran, Cardiology, Frank H. Morris, Cardiology, James S. Novick, Gastroenterology, Stephen H. Pollock, Cardiology, Clayton L. Raab, Cardiology, Stephen H. Resnick, Cardiology, Alfred J. Saah, Infectious Diseases, Edward W. Schaefer, Jr., Pulmonary Diseases, Judith A. Small, Dermatology, Robert P. Strier, Dermatology, Ronald J. Sweren, Dermatology, William A. Valente, Endocrinology, Barry S. Walters, Cardiology, Deborah F. Weber, Infectious Diseases, Melvin C. White, Cardiology, Donald J. Williams, Nephrology, Carol M. Ziminski, Rheumatology.

Medical House Staff 1978–1979

Chief Residents in Medicine

Drs. C. Gregory Elliott, Lloyd Van Lunen, Jeffrey L. Quartner.

Third-Year Residents (G-3)

Drs. Michael Bergman, Lawrence F. Blob, Michael E. Cox, William G. Flowers, John J. Griffin, James A. Hill, Sandra O. Johnson, Robert F. Kerns, Robert Mathieson, G. Robert Medalie, Arnold B. Merin, James S. Novick, William Ruppel, Melvin Sharoky, Richard F. Timmons, Pamela A. Wilson.

Second-Year Residents (G-2)

Drs. Regina H. Anderson, Frederic T. Farra, Richard J. Fastiggi, Kendall R. Faulkner, Robert W. Hand, Mark J. Kushner, E. Huxley Miller, Lee R. Pennington, Roy H. Phillips, Terrence L. Posluszny, Steven H. Res-

nick, Barry L. Rosen, Steven B. Schwartz, Paul H. Siegel, John W. Sixbey, Robert L. Smith, Steven G. Steinberg, David K. Tilley, Bennett E. Werner, Stuart A. Zipper.

First-Year Residents (G-1)

Drs. Robert E. Applebaum, Joan M. Bathon, Michael H. Blume, Howard Boltansky, Lawrence A. Doyle, Raymond H. Flores, Charity C. Fox, Andrew P. Fridberg, Elliott T. Friedman, Lynne A. Gaynes, Scott D. Glazer, Kenneth S. Gummerson, Mary F. Maturi, Dan A. Morton, James W. Oshida, Joseph A. Petrozza, James F. Rooney, Elizabeth M. Ross, Stephen A. Valenti, Randolph G. Whipps, Alison Wichman, Daniel I. Woronow, Stuart R. Stark (Neurology Resident in Medicine).

Primary Care Program in Medicine 1978–1979

Third-Year Resident (G-3)

Dr. Darrell M. Gray

Second-Year Residents (G-2)

Drs. Richard Diamond, Edward P. Koza, Jerry I. Levine, John S. Minkowski, Calvin E. Plitt, Wallace A. Riley, Michelle Uhl, Barry A. Wohl.

First-Year Residents (G-1)

Drs. Albert F. Deloskey, Louis J. Domenici, Gary A. Manko, Susan H. Prouty, Ronald J. Ross, Alan M. Shorofsky, E. Timothy Souweine.

Medical House Staff 1979–1980

Chief Residents in Medicine

Drs. George L. Drusano, G. Robert Medalie.

Third-Year Residents

Drs. Regina H. Anderson, Frederic T. Farra, Richard J. Fastiggi, Kendall R. Faulkner, Robert W. Hand, Mark J. Kushner, Lee R. Pennington, Roy H. Phillips, Terrence L. Posluszny, Barry L. Rosen, Douglas Ross, Steven B. Schwartz, Paul H. Siegel, John W. Sixbey, Robert L. Smith, Steven G. Steinberg, David K. Tilley, Bennett E. Werner, Stuart A. Zipper.

Second-Year Residents (G-2)

Drs. Joan M. Bathon, Michael H. Blume, Howard Boltansky, L. Austin Doyle, Raymond H. Flores, Char-

ity C. Fox, Andrew P. Fridberg, Elliott T. Friedman, Lynne A. Gaynes, Mary F. Maturi, Dan A. Morton, James W. Oshida, Joseph A. Petrozza, Gary C. Prada, James F. Rooney, Elizabeth M. Ross, Stephen A. Valenti, Randolph G. Whipps, Daniel I. Woronow.

First-Year Residents (G-1)

Drs. Adhid I. Alarif, Peter Condro, John A. Covington, Scott A. Friedman, Norman I. Goldstein, Joyce Y. Gross, Thomas B. Haywood, Evelyn D. Jackson, Marlene F. JaRo, David E. Kelley, Arthur J. Lomant, Miles M. McFarland, Stuart E. Mirvis, David S. Prince, Kirsten B. Raines, Bruce Rosenberg, Phyllis S. Schreiner, Dorothy A. Snow, Abelardo S. Wee (Neurology Resident in Medicine).

Primary Care Program in Medicine 1979–1980

Third-Year Residents (G-3)

Drs. Richard Diamond, Edward P. Koza, Jerry I. Levine, Calvin E. Plitt, Wallace A. Riley, Michelle Uhl, Barry A. Wohl.

Second-Year Residents (G-2)

Drs. Albert F. Deloskey, Louis J. Domenici, Gary A. Manko, Susan H. Prouty, Ronald J. Ross, Alan M. Sarofsky, E. Timothy Souweine.

First-Year Residents (G-1)

Drs. Bruce D. Behounek, Karen C. Carroll, Barbara A. Fretwell, Jerry B. Hunt, Margaret A. Kaiser, John Weigel, Paul Young-Hyman.

Postgraduate Program (Medical Grand Rounds by Visiting Educators)

SEE PRIOR CHAPTER FOR DETAILS OF CURRICULAR AND EDUCATIONAL PROGRAMS OF THE DEPARTMENT AND SPECIALTY DIVISIONS.

Members of the Department of Medicine and its various subspecialties sponsor and participate actively in postgraduate programs of the School of Medicine and Hospital, as well as in national and international meetings. Following are listed the lectures given by visiting educators at Tuesday Medical Grand Round, Howard Tower, during 1978–79 and 1979–80.

Tuesday Noon Conferences in Various Medical Disciplines and Applied Basic Science for the years 1978–79, 1979–80, were presented by prominent visiting medical educators. Members of the faculty and house staff who contributed importantly to these conferences are not included.

Tuesday Noon Conferences 1978–1979

July 11

*Adult Respiratory Distress
Syndrome*

Warren Summer, M.D.

Associate Professor of Medicine
Director, Medical Intensive Care
Unit

Johns Hopkins University School of
Medicine
Baltimore, Maryland

September 19

*Maximizing the Antibacterial
Activity of Antibiotics*

Leon Sabath, M.D.

Professor of Medicine
Head, Division of Infectious
Diseases

University of Minnesota School of
Medicine

Minneapolis, Minnesota

September 26

*The Delivery of Health Care:
An Academic Dilemma*

The Herbert Lee Moseley, Jr., M.D.
Memorial Lecture

David E. Rogers, M.D.

President, Robert Wood Johnson
Foundation

Adjunct Professor of Medicine
Cornell University of Medicine
Attending Physician
New York Hospital

October 10

Prophylaxis for Hepatitis:

New Concepts of Etiology

Jay Hoofnagle, M.D.

Senior Investigator
National Institutes of Health
Bethesda, Maryland

November 14

Chemotherapy of Mycoses, 1978
The Herbert Berger Lecture

	John P. Utz, M.D. Professor of Medicine Georgetown University School of Medicine Washington, DC	February 6	<i>Celiac Disease</i> Presented by: Roy Phillips, M.D. Junior Assistant Resident in Medicine Theodore Bayles, M.D. Division of Gastroenterology Johns Hopkins University School of Medicine Baltimore, Maryland
November 28	<i>Pharmacology of Methadone</i> Mary Jean Kreek, M.D. Senior Research Associate and Physician Rockefeller University School of Medicine New York, New York	February 13	<i>Management of Gouty Arthropathy</i> Presented by: Stephen Schwartz, M.D. Junior Assistant Resident in Medicine Mary Betty Stevens, M.D. Associate Professor and Head Division of Rheumatology University of Maryland School of Medicine and Hospital Johns Hopkins University School of Medicine
December 5	<i>Three Varieties of Cushing's Syndrome</i> The Maurice C. Pincoffs Visiting Professor Grant W. Liddle, M.D. Professor and Chairman Department of Medicine Vanderbilt University School of Medicine Nashville, Tennessee	February 20	<i>Diagnostic and Therapeutic Appli- cations of Holter Monitoring</i> Harold Kennedy, M.D. Assistant Professor of Medicine Division of Cardiology U.S. Public Health Service Hospital Baltimore, Maryland
December 12	<i>Treatment of the Complications of Chronic Alcoholic Liver Disease</i> Harold O. Conn, M.D. Professor of Medicine Yale University School of Medicine Liver Disease Unit West Haven Veterans Administration Hospital Connecticut	March 6	<i>Physiological Regulation of Feeding</i> The Charles Getz, M.D. Memorial Lecture Paul R. McHugh, M.D. Professor and Chairman Department of Psychiatry Johns Hopkins University School of Medicine Psychiatrist-in-Chief Johns Hopkins Hospital Baltimore, Maryland
January 2	<i>Pneumococcal Infections and the Role of Pneumococcal Vaccine</i> The Phi Delta Epsilon Annual Lecture Robert Austrian, M.D. Professor of Research Medicine University of Pennsylvania School of Medicine Philadelphia, Pennsylvania	March 13	<i>Varieties of Hyperthyroidism: Pathogenesis, Presentation and Diagnosis</i> Sidney H. Ingbar, M.D. William Bosworth Castle Professor of Medicine Harvard Medical School Cambridge, Massachusetts
January 9	<i>Pathophysiology of Obesity</i> Robert E. Olson, M.D., Ph.D. Alice A. Doisy Professor and Chairman Department of Biochemistry St. Louis University School of Medicine St. Louis, Missouri	April 3	<i>Update on the Renin Angiotensin System in Hypertension</i> Richard Re, M.D. Assistant Professor of Medicine Harvard Medical School Cambridge, Massachusetts
January 16	<i>Pulmonary Thromboembolism Diagnosis and Therapy</i> Presented by: Huxley Miller, M.D. Junior Assistant Resident in Medicine William Bell, M.D. Associate Professor of Radiology Johns Hopkins University School of Medicine Baltimore, Maryland	April 17	<i>Crohn's Disease</i> The Julius Friedenwald Memorial Lecture Fred Kern, M.D. Professor and Head

April 24	Division of Gastroenterology University of Colorado Medical Center Denver, Colorado	October 16	<i>Basic and Clinical Aspects of GI Immunology</i> Summer Kraft, M.D. Professor of Medicine University of Chicago School of Medicine Chicago, Illinois
	<i>Current Implications for Cortico- steroid Therapy in Pulmonary Sarcoidosis</i> Carol Johns, M.D. Associate Professor of Medicine Division of Pulmonary Diseases Johns Hopkins University School of Medicine Baltimore, Maryland	October 23	<i>Saccharin and Food Safety Regulation</i> T. Colin Campbell, M.D. Professor of Nutrition and Biochemistry Cornell University School of Medicine New York City, New York
May 8	<i>Complement Induced Granulocyte Aggregation Role in Shock Lung and Other Clinical Disorders</i> The Alice Band Memorial Lecture Harry Jacobs, M.D. Professor of Medicine and Chief of Hematology University of Minnesota School of Medicine Minneapolis, Minnesota	October 30	<i>Mechanisms of Constipation</i> Ghislain Devroede, M.D. Center Hospitalier Universitaire Sherbrooke Providence of Quebec Canada
May 15	<i>Management Problems in the Transfusion Dependent Patient</i> Samuel Marney, M.D. Assistant Professor of Medicine Chief of Allergy Vanderbilt University School of Medicine Staff Physician and Consultant in Infectious Diseases Veterans Administration Hospital Nashville, Tennessee	November 6	<i>Drug Platelet Interactions</i> Patricia M. Sutton Catalano, M.D. Instructor in Medicine Thomas Jefferson University Philadelphia, Pennsylvania
May 22	<i>Current Concepts in the Diagnosis and Management of Interstitial Pneumonitis</i> Brendan Keogh, M.D. Chief of Clinical Research Pulmonary Medicine National Institutes of Health Bethesda, Maryland	November 13	<i>Hyperglycemic Hyperosmolar Non-Ketotic Coma</i> Aldo Rossini, M.D. Associate Professor of Medicine University of Massachusetts Worcester, Massachusetts
		November 27	<i>Treatment of Diffuse Lymphoma</i> Joseph R. Bertino, M.D. Chief, Medical Oncology Yale University School of Medicine New Haven Connecticut
Tuesday Noon Conferences 1979-80			
October 2	<i>Regionalization and Medical Education in the Puerto Rican Experience</i> Norman Maldonado, M.D., Chancellor University of Puerto Rico Medical Center San Juan, Puerto Rico	December 4	<i>Pediatric Infectious Diseases Affecting Adults</i> The Maurice C. Pincoffs Visiting Professor Lectureship Saul Krugman, M.D. Professor of Pediatrics New York University School of Medicine New York City, New York
October 9	<i>Adult Rheumatic Fever</i> Presented by: John Wiegel, M.D. Intern in Medicine Mark Hochberg, M.D. Department of Medicine Good Samaritan Hospital Baltimore, Maryland	December 18	<i>Clinical Aspects of Insulin Resistance</i> Philip Gorden, M.D. Chief, Section on Clinical & Cellular Biology Diabetes Branch, National Institutes of Arthritis Metabolism and Digestive Diseases
		January 8	<i>Pathogenesis of Diarrheal Diseases</i> The Charles Getz, M.D., Memorial Lecture

	Richard B. Hornick, M.D. Professor and Chairman Department of Medicine University of Rochester School of Medicine Rochester, New York		University of Chicago School of Medicine Director, Division of Endocrinology Michael Reese Medical Center Chicago, Illinois
January 15	<i>Jejuno—Ileal Bypass: Clinical Complications and Studies With An Experimental Model</i> Michael Sorrell, M.D. Professor of Medicine Director, Liver Study Unit V. A. Hospital Omaha, Nebraska	March 4	<i>Hypertension: Rational Drug Therapy Compliance</i> James C. Melby, M.D. Professor of Medicine Head, Division of Endocrinology Boston University School of Medicine Boston, Massachusetts
January 22	<i>Pathophysiology and Molecular Ba- sis of the Thalassemic Syndromes</i> Bernard Forget, M.D. Professor of Medicine Head, Division of Hematology Yale University School of Medicine New Haven, Connecticut	March 11	<i>Fibrinolysis and Hemostasis</i> The Alice Band Memorial Lecture Sol Sherry, M.D. Professor and Chairman Department of Medicine Temple University Medical Center Philadelphia, Pennsylvania
January 29	<i>The Relationship of Slow Viruses to Disorders of the Central Nervous System</i> The Herbert Berger Lecture D. Carleton Gajdusek, M.D. Chief, Laboratories of Central Nervous System Nobel Laureate in Medicine, 1976 National Institute of Neurologic and Communicative Disorders and Stroke Bethesda, Maryland	April 9	<i>Factors Predicting Clinical Course After Survival of Myocardial Infarction</i> J. O'Neal Humphries, M.D. Professor and Chairman Department of Medicine University of South Carolina School of Medicine Charleston, South Carolina
February 5	<i>Malabsorption and Diarrhea: A Pathophysiological Approach</i> Sidney F. Phillips, M.D. Mayo Foundation Mayo Clinic School of Medicine Rochester, Minnesota GI Unit, St. Mary's Hospital	April 15	<i>Metabolic Antecedents and Conse- quences of Pancreatic Disease</i> Henry D. Janowitz, M.D. Mount Sinai Medical Center Mount Sinai School of Medicine New York, New York
February 12	<i>Natural History of Management of Polycythemia Vera</i> Ronald Hoffman, M.D. Assistant Professor of Medicine Yale University School of Medicine New Haven, Connecticut	April 22	<i>Clinical Spectrum of Vasculitis</i> Anthony S. Fauci, M.D. Head, Clinical Physiology Section Laboratory of Clinical Investigation Deputy Clinical Director National Institutes of Allergy and Infectious Diseases—NIH Bethesda, Maryland
February 19	<i>The Urinary Tract: Symptoms and Infections</i> Jay P. Sanford, M.D. Dean, Uniformed Services of the Health Sciences Bethesda, Maryland	April 29	<i>Clinical Syndromes: Pathogenesis of Multiple Myeloma</i> Rose Papa, M.D. Assistant Professor of Medicine Director, Hematology and Oncology Veterans Administration System Yale University School of Medicine New Haven, Connecticut
February 26	<i>Neurotransmitters, Hypothalamic Hormones and Neuro-Endocrine Disorders</i> Lawrence A. Frohman, M.D. Professor of Medicine	The Annual Maurice C. Pincoffs Lectures Monday, December 4, 1978— Davidge Hall—5:00 p.m. Grant W. Liddle, M.D. Professor and Chairman	

Department of Medicine
Vanderbilt University
School of Medicine
Nashville, Tennessee
"Ectopic Hormones"

Monday, December 3, 1979—

Howard Hall Tower—5:00 p.m.

Saul Krugman, M.D.
Professor of Pediatrics
New York University Medical Center
New York, New York
"Viral Hepatitis: New Developments and Prospects for Prevention"

Former Pincoffs Lecturers

1957 Joseph E. Smadel, M.D.
1958 George W. Thorn, M.D.
1959 Irvine H. Page, M.D.
1960 Bernard J. Alpers, M.D.
1961 John H. Dingle, M.D.
1962 Jerome W. Conn, M.D.
1963 Julius H. Comroe, Jr., M.D.
1964 Arnold S. Relman, M.D.
1965 Eugene A. Stead, Jr.
1966 Alfred Gellhorn, M.D.
1967 Albert H. Coons, M.D.
1968 William B. Bean, M.D.
1969 Robert A. Good, M.D.
1970 John H. Knowles, M.D.
1971 Eugene Braunwald, M.D.
1972 Marvin Siperstein, M.D.
1973 Charles H. Rammelkamp, M.D.
1974 David M. Kipnis, M.D.
1975 Lewis Thomas, M.D.
1976 Hon. Rogers C. B. Morton
1977 Jacques Genest, C.C., M.D.
1978 Grant W. Liddle, M.D.
1979 Saul Krugman, M.D.

June 21–23,
1979

October 26–
27, 1979

March 6–8,
1980

March 8,
1980

June 13–16,
1980

Cancer Program, International Hotel, Baltimore Washington International Airport.

Dermatology Days. Sponsored by the Department of Medicine, Division of Dermatology, University of Maryland School of Medicine and Hospital, Ocean City, Maryland.

Practical Clinical Endocrinology. Sponsored by the division of Endocrinology and Metabolism, Department of Medicine, University of Maryland School of Medicine and Hospital, Baltimore Washington International Airport, International Hotel.

Fifth Annual Symposium on *Advances in Cancer Treatment Research*, Baltimore Cancer Research Program and University of Maryland Cancer Program, International Hotel, Baltimore Washington International Airport.

Tidewater Gastrointestinal Seminar. Sponsored by Division of Gastroenterology, Department of Medicine, University of Maryland School of Medicine and Hospital, and The Continuing Education Committee, Memorial Hospital at Easton, Tidewater Inn, Easton, Maryland. Course Director: Richard Baum, M.D.

MKSAP V Review Course—Baltimore. Sponsored by Departments of Medicine, University of Maryland School of Medicine and Johns Hopkins University School of Medicine, Baltimore Hilton. Directors: Dr. Victor A. McKusick, Professor and Director of Medicine, Johns Hopkins University School of Medicine and Dr. Theodore E. Woodward, Professor and Chairman, Department of Medicine, University of Maryland School of Medicine; Co-Directors: Dr. Theodore M. Bayless, Associate Professor of Medicine, Johns Hopkins University School of Medicine, Dr. Frank M. Calia, Professor of Medicine, University of Maryland School of Medicine, Chief, Medical Service, Baltimore Veterans Administration Medical Center, Dr. Harold C. Standiford, Associate Professor of Medicine, University of Maryland School of Medicine, Chief, Section of Infectious Diseases, Baltimore V.A. Medical Center.

Special Postgraduate Programs in Medicine in Continuing Education

March 3–4,
1978 *Gastroenterology for Primary Care Physicians*. Sponsored by the Division of Gastroenterology, Department of Medicine, University of Maryland School of Medicine and Hospital, Cross Keys Inn, Baltimore.

March 9–10,
1979 *Gastroenterology for Primary Care Physicians*. Sponsored by the Division of Gastroenterology, Department of Medicine, University of Maryland School of Medicine and Hospital, Cross Keys Inn, Baltimore.

April 19–21,
1979 Fourth Annual Symposium on *Advances in Cancer Treatment Research*, Baltimore Cancer Research Center and University of Maryland

Special Activities and Programs of Divisions

Dr. Sheldon E. Greisman continues to exert his influence broadly in departmental and school activities. His research on endotoxins marks him as a national leader in this important field. He participates actively in the teaching program of the Departments of Physiology and Biochemistry and very effectively coordinates course work in correlative medicine for the basic sciences which brings together preclinical and clinicians in effective teaching exercises for freshman medical students.

In 1978, Doctor Greisman was elected to membership in the Interurban Clinical Club (founded by William Osler in 1905) and in 1978, he was elected to membership in the American Clinical and Climatological Association.

In early 1979, James C. Allen, M.D., Professor of Medicine at the Buffalo University School of Medicine, joined the Department of Medicine. Following graduation from Harvard Medical School, Doctor Allen trained on the Osler Medical Service at the Johns Hopkins Hospital, served as Chief Medical Resident on that service and later trained as a Fellow at the Rockefeller Institute under Dr. Henry Kunkel. At Buffalo, Doctor Allen was a recognized teacher of medicine and of clinical skills as they relate to medicine as well as a competent and productive clinical immunologist. The department and school were significantly strengthened by his joining the faculty.

RESEARCH AND EDUCATIONAL ACTIVITIES

Grants-in-Aid

Division of Cardiology

1978-80	LEIDY Foundation	\$100,000.
1979-80	Maryland Heart Assoc.	36,000.

Division of Dermatology

1977-78	Fish Kill (State of Maryland Natural Resources)	56,649.
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1978-79	Fish Kill (State of Maryland Natural Resources)	60,700.
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Division of Endocrinology

1977-78	N.I.H.	86,340.
1978-79	N.I.H.	97,653.

Division of Gastroenterology

1977-78	N.I.H.	156,426.
1978-79	N.I.H.	127,991.

Division of Infectious Diseases

1974-77	Lederle Laboratories (Approximately \$38,725./yr.)	116,172.
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1977-78	N.I.H.	1,059,127.
1978-79	U.S. Army Research and Development Command	69,266.

1978-80	N.I.H.	2,289,605.
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1978-79	World Health Organization	8,000.
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1979-80	Hynson, Westcott and Dunning	73,800.
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1979-80	World Health Organization	7,900.
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1979-80	Pan American Health Organization	9,814.
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Division of Infectious Diseases

1980-81	U.S. Army Research and Development Command	\$89,849.
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1980-81	U.S. Army Research and Development Command	52,658.
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1980-81	Pan American Health Organization	20,000.
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Division of Pulmonary Diseases

1977-78	Environmental Protection Agency	250,144.
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1978-80	Environmental Protection Agency	480,637.
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Division of Rheumatology

1977-78	N.I.H.	23,784.
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1978-79	N.I.H.	17,764.
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CLINICAL FACULTY



Dr. Ephraim Lisansky Medicine



Dr. Theodore Woodward Medicine



Dr. James Quinlan Medicine



Dr. Herbert Kushner Medicine



Dr. Richard Hornick . . . Infectious Diseases
Dr. Harry Robinson, Jr. . . . Dermatology



Dr. John Sadler . . . Nephrology



Dr. Frank Iber Gastroenterology



Dr. Leonard Scherlis . . . Cardiology



Dr. John Wiswell . . . Endocrinology



Dr. Thomas Hobbins . . . Pulmonary



Dr. Frank Calia . . . Medicine



Dr. Sheldon Greisman . . . Medicine



Dr. Emilio Ramos . . . Medicine
Dr. Mark Applefield . . . Cardiology



Dr. Donald Pachuta . . . Medicine



Dr. Thomas Connor . . . Endocrinology



Dr. Bruce Hamilton . . . Endocrinology



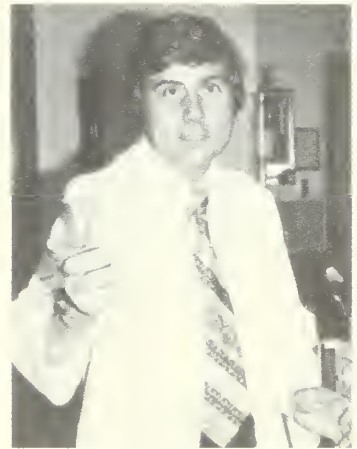
Dr. Reuben Jiji . . . Hematology



Dr. Nathan Carliner Cardiology



Dr. Michael Fisher Cardiology



Dr. Charles Defelice Cardiology



Dr. Il-Abraham Infectious Diseases



Dr. Joseph Burnett Dermatology



Dr. Luis Martin Endocrinology



Dr. James H. Mersey
Endocrinology



Dr. Bruce Hamilton
Endocrinology



William Valente, M.D.
Medicine - Endocrinology



Dr. Gary Plotnick and Dr. Michael Fisher Cardiology



Dr. Nathan Carliner Cardiology



Dr. James C. Allen Medicine



Dr. Samuel I. O'Mansky
Medicine



Dr. Joseph Shear Medicine



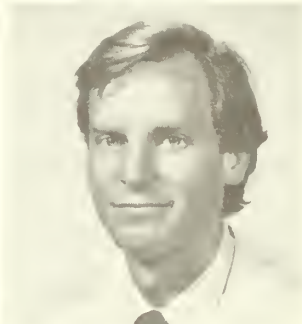
Dr. Donald M. Pachuta
Medicine - Infectious Diseases



Dr. Morton Rapoport
Medicine - Infectious Diseases



Dr. Jay S. Goodman
Medicine - Infectious Diseases



Dr. John W. Warren
Infectious Diseases



Harold Standiford, M.D.
Infectious Diseases



Left to Right Dr. Luis Martin, Dr. Sheldon Greisman, Dr. Ellis Caplan, Dr. Salah Nasrallah, Dr. Sheldon Amsel



Dr. Myron M. Levine
Pediatrics - Infectious Diseases



Dr. Merrill J. Snyder
Microbiology - Infectious Diseases



Dr. Werner Barth
Medicine - Rheumatology



Mrs. Carol Young
Devoted Departmental Secretary

HOUSE OFFICERS AND THEIR CAREERS

From 1950 until 1980, house officers who trained in medicine chose various paths for their future careers. Approximately one-half of the total of chief medical residents entered the general practice of internal medicine or subspecialties and about one-half chose academic careers. Residents and fellows distributed themselves throughout the United States while a significant number located in Baltimore and Maryland.

Rather proudly, the department can boast that those physicians who entered private practice became leaders in their respective locations and in academic medicine many achieved creditable roles for themselves. Among the chief medical residents who trained under Doctor Woodward are:

1950-51

W. Carl Ebeling, III
Assistant Professor of Medicine, Gastroenterology,
private practice

1952-53

Kyle Y. Swisher
Assistant Professor of Medicine, Cardiology,
private practice

1952-53

Francis J. Borges, Jr.
Professor of Medicine, University of Maryland
School of Medicine and Hospital

1953-54

Howard F. Raskin
Associate Professor of Medicine, Gastroenterology,
private practice

1954-55

David M. Kipnis
Chairman, Professor of Medicine, University of
Washington School of Medicine (St. Louis)

1955-56

William S. Spicer, Jr.
Professor of Medicine, Chairman, Primary Care,
University of Maryland School of Medicine and
Hospital

1956-57

Adalbert F. Schubart
Professor of Medicine, University of Maryland
University of Mainz, Germany

1957-58

Robert T. Singleton
Associate Professor of Medicine, University of
Maryland

1957-58

Joseph C. Fitzgerald
Private practice

1958-59

David A. Levy
Professor of Immunology, Johns Hopkins University
School of Medicine and Hospital

1959-60

Thomas E. Davis
Faculty, University of Washington, Community
Health

1960-61

Leonard J. Morse
Infectious Diseases, United States Army,
private practice

1961-62

C. Ronald Koons
Oncology, private practice

1962-63

Richard B. Hornick
Professor of Medicine, Chairman, Associate Dean,
University of Rochester School of Medicine

1963-64

Howard J. Rubenstein
Cardiology, private practice

1963-64

Ramon F. Roig
Assistant Professor of Medicine, Gastroenterology,
private practice

1964-65

Gerald M. Waggener
Gastroenterology, private practice

1964-65

Aristides C. Alevizatos
Assistant Professor of Medicine, University of
Maryland School of Medicine, private practice

1965-66

Jerry Salan
Assistant Professor of Medicine, private practice

1966-67

Dennis K. Wentz
Gastroenterology, hospital administration, University
of Tennessee and Vanderbilt Hospital

1967-68

Francine D. Camitta
Endocrinology, private practice

1967-68

Herbert A. Kushner
Associate Professor of Medicine, full-time,
community hospital

1968–69

Charles H. Asplen
Nephrology, Peter Bent Brigham Hospital, Harvard

1969–70

Richard D. Biggs
Cardiology, private practice

1969–70

Richard P. Wenzel
Professor of Medicine, University of Virginia School of Medicine

1970–71

Bruce Brian
Pulmonary diseases, private practice

1970–71

Timothy Kenney Gray
Professor of Medicine, University of North Carolina

1971–72

Barry N. Rosenbaum
Nephrology, private practice

1971–72

Marcia C. Schmidt
Associate Professor of Medicine, University of Maryland

1972–73

James A. Quinlan, Jr.
Associate Professor of Medicine, University of Maryland, private practice

1972–73

Jean M. Jackson
Assistant Professor of Medicine, Robert Brett Brigham Hospital, Harvard

1973–74

Meyer M. Heyman
Associate Professor of Medicine, University of Maryland

1974–75

Mark M. Applefeld
Associate Professor of Medicine, University of Maryland, Cardiology; Head, Cardiology, Mercy Hospital

1975–76

John Wolfe Blotzer
Associate Professor of Medicine, University of Maryland, private practice

1975–76

Norman W. Haines, Jr.
Gastroenterology, private practice

1976–77

Lawrence A. Fleming
Private practice

1976–77

Daniel C. Hardesty
Private practice

1976–77

Thomas T. McCloskey
Private practice

1977–78

George W. Moran
Assistant Chief of Medicine, Union Memorial Hospital, private practice

1977–78

William A. Valente
Assistant Professor of Medicine, University of Maryland, private practice

1978–79

C. Gregory Elliott
Associate Professor of Medicine, University of Utah

1978–79

Jeffrey L. Quartner
Cardiology, private practice

1978–79

Lloyd M. Van Lunen
Private practice

1979–80

George L. Drusano
Assistant Professor of Medicine, University of Maryland

1979–80

G. Robert Medalie
Cardiology, private practice

1980–81

Ira T. Fine
Rheumatology, private practice

1980–81

Robert W. Hand
Neurology, private practice

1980–81

Steven B. Schwartz
Private practice

1980–81

Steven Steinberg
Cardiology, private practice

1981–82

Charity C. Fox
Allergy, Johns Hopkins

1981–82

Dan Morton
Gastroenterology, Johns Hopkins, private practice

1981–82

Steven H. Resnick
Private practice

1981–82

Randolph G. Whipps
Cardiology, private practice

It is noted above that David Kipnis was appointed to the Distinguished Chair of Medicine at Washington University, St. Louis, and fashioned a remarkable career for himself as an endocrinologist and as an authority in the field of carbohydrate metabolism. Leonard Morse joined the faculty of the University of

Massachusetts, became one of the distinguished practicing physicians in Worcester and directed the Health Department in Worcester for a number of years. After Adalbert Schubart completed his fellowship at the Massachusetts General Hospital, he headed the Division of Rheumatology at the University of Maryland School of Medicine and Hospital. Subsequently, he returned to his native Germany, became a Professor of Medicine at the University of Mainz. William S. Spicer, Jr., completed his fellowship in Pulmonary Diseases at the University of Pennsylvania and after his chief residency in medicine developed the innovative program in Primary Care as well as a training program in medicine for nurses. Richard B. Hornick directed the program of infectious diseases at the University of Maryland for a number of years and was appointed to the Chair of Medicine at the University of Rochester. T. Kenney Gray became director of the Division of Endocrinology and the Clinical Study Center at the University of North Carolina where he also served as Deputy Director of the Department of Medicine. Richard P. Wenzel accepted an appointment at the University of Virginia School of Medicine and Hospital; there he was elevated to the rank of Professor of Medicine and became recognized as one of the nation's authorities in the field of nosocomial infections. Jean Jackson, after her chief medical residency and work as head of the Division of Rheumatology at the University of Maryland, returned to Boston as staff physician of the Robert Brett Brigham Hospital and Assistant Professor of Medicine of the Harvard Medical School. Later, Michael Weinblatt, after completion of his training in medicine, joined the staff of the Robert Brett Brigham Hospital and became one of the outstanding staff members there under Dr. Frank Austen.

Other medical residents established important careers for themselves, such as James Cerda, Professor of Medicine and Deputy Director of the Department of Medicine at the University of Florida. Philip Toskes became Professor of Medicine in University of Florida and head of the Division of Gastroenterology. After her fellowship in endocrinology at the Massachusetts General Hospital, Jane Mahaffey was appointed there as Staff Physician and Assistant Professor of Medicine at the Harvard Medical School. Philip Mackoviak became Associate Professor of Medicine at Southwestern Texas Medical School and Assistant Head of the Division of Infectious Diseases of the Veterans Administration Medical Center in Dallas. Herbert DuPont served first as fellow and later Assistant Professor of Medicine at Maryland in the Division of Infectious Diseases. Following this, he was appointed as head of the Division of Infectious Diseases and of Microbiology at the University of Texas, Houston. Stephen Greenberg became Associate Professor of Medicine at Baylor School of Medicine in Houston and Assistant Director of the Division of Infectious Diseases. Zalman Agus was appointed full Professor of Medicine at the Uni-

versity of Pennsylvania and head of the Renal and Electrolyte Division. Jonas Shulman was appointed Professor of Medicine at Emory University School of Medicine and Chairman of the Department of Community Medicine at Emory in Atlanta. William Barker was appointed Professor of Medicine at the University of Rochester and Chairman of the Division of Community Medicine. After his formal training in medicine at Maryland and at Boston, Allen Myers became head of the Division of Rheumatology at the University of Pennsylvania. Following this appointment, he became Professor of Medicine and Deputy Chairman of the Department at Temple University. Eric Bergquist served as Fellow in Infectious Diseases at Maryland and was then appointed as head of the Division of Infectious Diseases at Thomas Jefferson Hospital. Philip Russell, who trained for several years in medicine and in infectious diseases, was later appointed Commandant of the Walter Reed Medical Center and Commandant of the Fitzsimmons General Hospital. Allen Ronald, who served as assistant resident in medicine and Fellow in Medicine, became Director of the Division of Infectious Diseases at the University of Manitoba and later Chairman of the Department of Medicine there. David Charkes, who trained in medicine and nuclear medicine, became Professor of Medicine and of Radiology and head of the Division of Nuclear Medicine at the Temple University School of Medicine. Jules Puschet joined the University of Pittsburgh School of Medicine, was appointed as Professor of Medicine and head of the Division of Nephrology. He made important contributions to the curriculum of that school. After his training in medicine at Maryland, Zaheer-Ud-Din returned to his native Pakistan as a Military Officer and later was appointed to the rank of Brigadier and head of the medical program. Robert Myerburg left Maryland following his medical training to become Professor of Medicine and head of the Division of Cardiology at the University of Miami. Arthur Schmale, who received training in medicine, joined the faculty of the University of Rochester as Professor of Medicine and Psychiatry. Hugh Gurley joined the faculty of the Johns Hopkins Medical Institutions and became Director of Emergency Medicine there. Following his training in medicine, Jay S. Goodman trained at Vanderbilt in infectious diseases and joined the faculty of that medical school and returned to Baltimore as head of the Department of Medicine at the Mercy Hospital. Richard Cash trained in medicine and infectious diseases at Maryland, performed work in cholera at Dacca and later became Associate Professor of Public Health and Hygiene at Harvard University. Ronica Kluge trained in medicine and infectious diseases at Maryland, joined the faculty of the University of West Virginia and later became Professor of Medicine and head of the Division of Infectious Diseases at the University of Texas, Galveston. Michael Friedman completed his training in medicine and in infectious diseases at Maryland, joined the fac-

ulty of the University of Pennsylvania and became Professor of Microbiology. After his training in medicine at the University of Maryland, Dr. Giraud Foster became Associate Professor of Physiology at the Johns Hopkins Medical Institutions. After completing his training in medicine and in cardiology, Elijah Saunders became head of cardiology at the Provident Hospital in Baltimore and later Associate Professor of Medicine and head of the Division of Hypertension. Richard Reba, who trained in medicine and in nuclear medicine at Maryland, was appointed to the faculty of George Washington University as Professor of Medicine and head of the Division of Nuclear Medicine. A. Plitt finished his training in medicine at Maryland, joined the United States Navy and achieved the rank of Captain. After his training in medicine and as Chief Resident in Medicine, John Rogers joined the faculty of The Univ. of North Carolina in Clinical Pharmacol-

ogy and later was appointed to the Johns Hopkins Medical Institutions as Associate Professor of Medicine and Clinical Pharmacology. William Fishbein completed his training in medicine and has served as a senior staff member in pathology at the Armed Forces Institute of Pathology. Susan Howard completed her training in medicine at Maryland, joined the Veterans Administration and was appointed as head of Infectious Diseases Programs for the Central Veterans Administration. John Mather trained in medicine and pulmonary diseases at Maryland, later joined the Veterans Administration and became a senior staff physician of the V.A. in Washington. After his training in medicine at Maryland, Kurt Sligar joined the faculty of Cornell Medical College in Neurology in New York City. Brian Baldwin trained in medicine and in cardiology at Maryland and ultimately entered the private practice of medicine in Houston.



DEPARTMENT OF MEDICINE PICNIC
JUNE 1963

Top Row: D. Dembo; V. Fiocco; J. C. E. Saunders; K. Owens; D. Morse; M. Gregg; R. Hornick; A. Lachman; R. Roig; L. Gallagher; D. Wentz; A. Schubart; K. Tuttle; P. Storey; M. Shefferman; C. Shaw; P. Sharpley; A. Antlitz; S. Greisman. Bottom Row: T. Woodward; F. Borges; G. Waggar; A. Alevizatos; P. Russell; J. Karns; R. Singleton.

STATUS REPORT OF THE DEPARTMENT OF MEDICINE

Growth and Decline of Resources

(Presented, on Request, to Hospital Program Planning Committee

Directed by Chancellor Albert F. Farmer,

Chaired by Carlyle Crenshaw, Jr., M.D., in 1981)

Beginning with its reorganization and development in 1950, the Department of Medicine gradually increased its resources, including faculty members, office and laboratory facilities and research programs, which peaked in about 1965. Its teaching activities gradually improved, made possible by acquisition and consolidation of these resources. Gradually, there has been a dismemberment of the department with respect to personnel and facilities.

1. The Division of Neurology was separated from the department in 1964. This involved transfer of all faculty and classified positions, house officer positions and space, including beds and laboratory facilities. Initially, all of these resources had been recruited by the Department of Medicine.

2. In 1970, through the action of Dean John H. Moxley, III, the clinical laboratories of the hospital were summarily removed from the responsibility of the Department of Medicine and placed under the Department of Pathology. This decision was made contrary to views of the chairman and recommendations of a special committee appointed by the hospital director with approval of the dean to study this matter and to make recommendations. With this transfer, those supportive facilities which related to the discipline of hematology and oncology were transferred from the Department of Medicine as well as all supportive laboratory facilities. The department never recovered from the impact of this action. This action in itself all but destroyed an excellent program of teaching of laboratory medicine for sophomore medical students. This action seriously impacted the lack of capability of Maryland medical students to perform simple laboratory procedures. This fact plus those which relate to the automation concept is largely responsible for the lack of simple laboratory skills by physicians. If students and house officers possessed these skills with reliable capability, there could be considerable saving in hospital charges particularly as they relate to the third floor service. The laboratory facilities on the floors are grossly inadequate and poorly appointed which make it difficult, if not impossible, to teach such skills in the clinical setting.

3. The program of residency training in general practice (now called Family Medicine) began in the

Department of Medicine in about 1955. Candidates who completed this training were qualified in internal medicine and in general practice. With the move toward broader programs in family medicine, the department was ideally suited to enhance and restructure this program. New faculty positions and new house officerships in general practice (later family medicine) were recruited as was a full-time faculty member and a half-time faculty member in this discipline. In 1972, this program and its resources were transferred from the Department of Medicine to an autonomous Division of Family Medicine chaired initially by an Advisory Committee under the Dean of the School of Medicine. Later, this unit became the Department of Family Medicine, under Dr. Edward J. Kowalewski. Initially, all of these positions—faculty, house officer and clinical—were recruited by the Department of Medicine.

4. Nuclear Medicine. The program in nuclear medicine was initiated by the Department of Medicine first as a program in radioisotopes and later became the Division of Nuclear Medicine. All of the faculty positions, clerical positions, technical positions, space and expensive technical equipment were recruited by the Department of Medicine. Based on the administration's direction, this entire division was transferred to the Department of Radiology in July, 1979. This transfer, in itself, represented a dollar value of approximately one-half million dollars.

In proper understanding of the aforementioned, it is to be realized that all of the above resources and personnel and space were recruited in a highly competitive market by the Department of Medicine. In placing its priorities in the above fields for the good of the medical center per se, other units within the Department of Medicine suffered by not gaining in personnel or space. These are very important matters to place in their proper perspective. The department has been seriously crippled and yet attempted to maintain itself as a leader in an academic medical center with an active ambulatory program which, for decades, has served the underprivileged members of the community. Yet, departmental faculty members successfully recruited private patients throughout Baltimore, surrounding areas and neighboring states.

The innovative program in primary care was initiated which is now of respectable quality in spite of inadequate support.

There is no Division of Allergy-Immunology in spite of repeated requests for seed support. The programs in hematology and pulmonary diseases are weak. Facilities in the Division of Gastroenterology are inferior as well as inadequate and not closely competitive with most other hospitals in the city. In carefully scrutinizing the department's capabilities, it can be stated simply that there are no programs within the Department of Medicine which can be cut out and permit it to maintain itself as an acceptable unit for teaching and delivery of tertiary care. Through restriction and transfer of funds and resources, the Department of Medicine was cut much more than advisable in view of its role in teaching, practice and relevant clinical research.

This prospectus was prepared in order to inform those in authority of what transpired in the past and what must not occur in the future if this department is to serve its academic role. It is for these reasons that the request for planning was taken seriously and a presentation made in terms of the Department of Medicine's present status and future needs.

A fundamental practical and academically oriented question is pertinent. Is it wise to weaken a strong clinical department such as medicine or rather to support it, evaluate the reasons for, and find the resources necessary to bring others to that standard? A medical school and teaching hospital without its major strength in Internal Medicine will have difficulty.

Some of the needs and perceived concepts are summarized.

SUMMATION OF STATUS REPORT

Implicit to the successful fulfillment of the aforementioned goals and objectives is the necessity to achieve the following:

1. Acquisition of first-class ambulant patient care facilities which will make the medical center attractive and fully competitive with all competing agencies. Within this facility must be included supportive services which provide opportunities for sophisticated diagnostic and therapeutic support.

2. Hospital bed facilities which are ample in numbers, attractive and efficient in appointment and geographically distributed so that supportive diagnostic and therapeutic supportive measures cater to the patient.

3. A system of incentives for everyone, including faculty, technical and clerical personnel. Faculty members must be recognized for their contributions to the success of medical programs and appropriately rewarded whether their contributions focus on teaching, research, patient care or administrative pursuits. These incentives apply, in principle, to all personnel.

4. A centralized, computerized billing and medical records system which will respond to all units with a recall system of data and records. Only when such is available can the medical center compete in the current business market and respond to many demands placed upon it by inspecting and evaluating governmental agencies.

5. Development of a Center for Continuing Medical Education on the campus which caters to the medical profession and allied health agencies concerned with medical care, planning and preventive medicine. Within this complex, there should be facilities which cater to affiliated hospitals in Maryland. With better planning, the medical school teaching facility could have fulfilled this function.

6. An awareness by all clinical departments that unification of their clinical services, whenever possible, will lead to efficiency of service and better patient care. Planning for new facilities should keep these considerations in mind.

7. Uniform acceptance by all in authority at legislative, administrative and professional levels that we exist because we are an educational institution. Our charge is to educate and assist young men and women in becoming well-qualified physicians and health professionals, to perform research which is relevant and related to that educational objective. In so doing, the Center must render the best possible care to patients and assist other hospitals in Maryland, when they desire, to achieve those standards of medical practice which they set for themselves.

FESTSCHRIFT FOR RETIRING CHAIRMAN

Scientific Program

A Tribute to

Theodore E. Woodward, M.D.

on the Occasion of His Retirement as
Chairman, Department of Medicine
University of Maryland School of Medicine

1954 – 1981

*From His Former Medical Residents
at the University of Maryland Hospital*

Medical School Teaching Facility Auditorium
10 South Pine Street
Baltimore, Maryland
University of Maryland School of Medicine

Friday, May 22, 1981

Morning Session

- | | | |
|-------|---|--|
| 8:30 | Registration - Atrium, Main Auditorium, Medical School Teaching Facility | |
| 9:15 | <p><i>Welcome/Introductory Remarks</i>
 Leonard J. Morse, M.D.
 Medical Epidemiologist
 City of Worcester Department of Public Health
 Massachusetts</p> <p><i>Moderator: William E. Woodward, M.D.</i>
 Associate Professor of Medicine
 School of Medicine
 Associate Professor of Epidemiology
 School of Public Health
 University of Texas
 Houston, Texas</p> | |
| 9:30 | Richard B. Hornick
Professor and Chairman
Department of Medicine
University of Rochester
School of Medicine
Rochester, New York | <i>History of Development of Typhoid Vaccine: Role of the University of Maryland</i> |
| 9:50 | Richard P. Wenzel, M.D.
Hospital Epidemiologist
Associate Professor of
Internal Medicine
University of Virginia
School of Medicine
Charlottesville, Virginia | <i>Post-Operative Wound Infections: Lessons of a Statewide Surveillance Program</i> |
| 10:10 | Herbert L. DuPont, M.D.
Professor and Director,
Program in Infectious Diseases
and Clinical Microbiology
The University of Texas Health
Science Center and Medical School
Houston, Texas | <i>The Causes and Reasons for Travelers' Diarrhea</i> |
| 10:30 | Coffee Break | |
| | <p><i>Moderator: Francine Camitta, M.D.</i>
 Co-Director, Endocrine Clinic
 York Hospital
 York, Pennsylvania</p> | |
| 10:50 | T. Kenney Gray, M.D.
Professor of Medicine
and Pharmacology
Vice Chairman, Department
of Medicine
University of North Carolina
Chapel Hill, North Carolina | <i>Vitamin D Metabolism — New Concepts and Recent Advances</i> |

- 11:10 Jules B. Puschett, M.D. *Effects of Vitamin D Metabolites
on the Kidney*
Professor of Medicine
Director, Renal-Electrolyte
Division
University of Pittsburgh School of Medicine
Pittsburgh, Pennsylvania
- 11:30 Zalman Agus, M.D. *Regulation of Calcium Excretion*
Professor of Medicine
Chief, Renal and Electrolyte Section
University of Pennsylvania School of Medicine
Philadelphia, Pennsylvania

Lunch — 12 Noon - 1:30 PM

Buffet — Atrium, Adjacent to Auditorium

Afternoon Session

Moderator: Philip Mackowiak, M.D.
Associate Chief, Infectious Diseases
Veteran's Administration Medical Center
Assistant Professor of Medicine
University of Texas Health Science Center
Southwestern Medical School
Dallas, Texas

- 1:30 David M. Kipnis, M.D. *The Physiological Significance of
Amino Acid Metabolism in
Skeletal Muscle*
Busch Professor and Chairman
Department of Medicine
Washington University
School of Medicine
St. Louis, Missouri
- 1:50 Robert J. Myerburg, M.D. *New Concepts in the Treatment of
Ventricular Arrhythmias*
Professor of Medicine
and Physiology
Director, Division of Cardiology
University of Miami School of Medicine
Miami, Florida
- 2:10 Jane Mahaffey, M.D. *Calcitonin — New Insight into
an Old Hormone*
Endocrine Unit, Massachusetts
General Hospital
Assistant Professor of Medicine
Harvard Medical School
Boston, Massachusetts

Break — 10 minutes

Moderator: Stephen Greenberg, M.D.
Associate Professor of Medicine,
Microbiology and Immunology
Baylor Medical College
Houston, Texas

- 2:40 James J. Cerda, M.D. *The Variable Clinical Course of Hereditary Pancreatitis*
 Professor of Medicine and
 Associate Chairman
 Department of Medicine
 University of Florida College of Medicine
 Gainesville, Florida
- 3:00 J. Edward Kelly, Jr., M.D. *The Soave Procedure for Management of Patients With Ulcerative Colitis*
 Community General Hospital
 Syracuse, New York
- 3:20 David A. Levy, M.D. *The Mechanism of Immunity to an Intestinal Parasite*
 Professor of Biochemistry
 The Johns Hopkins University
 School of Hygiene and Public Health
 Baltimore, Maryland
- 4:00 *Adjournment*
- 7:00 *Commemorative Dinner to Honor Theodore E. Woodward, M.D.*
 Hunt Valley Inn
 Interstate 83 and Shawan Road
 Hunt Valley, Maryland 21031

T. E. Woodward Tribute Committee

Mark Applefeld, M.D.
 Frank M. Calia, M.D.
 Thomas B. Connor, M.D.
 George Entwisle, M.D.
 Sheldon Greisman, M.D.
 Robert Parker, M.D.
 Vandervoort Rand, Esq.
 Leonard Scherlis, M.D.
 Merrill Snyder, Ph.D.
 William Spicer, Jr., M.D.
 John Wiswell, M.D., *Chairman*



Dr. Zalman Agus



Dr. Aristides C. Alevizatos



Dr. Mark M. Applefeld



Charles H. Asplen, M.D.



Richard D. Biggs, M.D.



Dr. J. Wolfe Blotzer



Dr. Stanley F. Bradley



Bruce A. Brian, M.D.



Dr. Francine D. Camitta



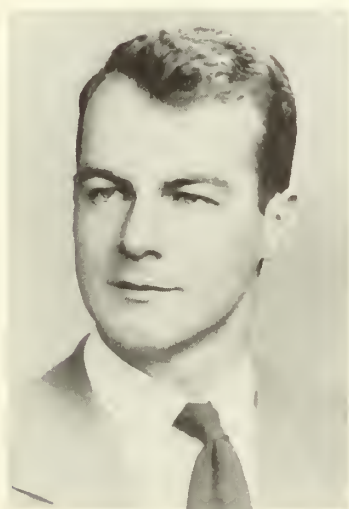
Dr. George L. Drusano



Dr. Gregory Elliott



Dr. Ira T. Fine



Joseph C. Fitzgerald, M.D.



Dr. Lawrence A. Fleming



Dr. T. Kenney Gray



Dr. Robert W. Hand



Dr. Daniel C. Hardesty



Dr. Meyer Heyman



Dr. Joseph H. Holmes



Dr. Richard B. Hornick



Dr. Jean M. Jackson



Dr. David M. Kipnis



Dr. Ronica Kluge



Dr. C. Ronald Koons



Dr. Herbert Kushner



David A. Levy, M.D.



Dr. Philip Mackowiak



Dr. A. Robert Masten



Thomas T. McCloskey, M.D.



Dr. George R. Medalie



Dr. George W. Moran



Dr. Leonard J. Morse



Dr. Allen R. Myers



Dr. Michael B. A. Oldstone



Dr. Jetirey L. Quartner



Dr. James A. Quinlan



Ramon F. Roig, M.D.



Barry N. Rosenbaum, M.D.



Howard J. Rubenstein, M.D.



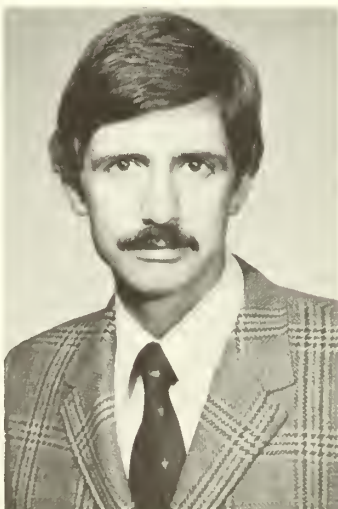
Dr. Marsha C. Schmidt



Dr. Steven B. Schwartz



Dr. Steven Steinberg



Dr. William A. Valente



Dr. Lloyd M. VanLunen



Dr. Gerald M. Waggoner



Dr. Dennis Wentz



Dr. James J. Cerda

Dr. Philip P. Toskes



Dr. Richard P. Wenzel



Dr. Herbert L. DuPont

Dr. Jonas A. Shulman



Dr. Robert J. Mverberg

Dr. Jay Goodman

The effectiveness of a university-oriented department of internal medicine is often gauged by its standards of teaching and patient care and its ethical principles. Another value trait is its research productivity. It is fitting that this history closes with a listing and brief account of some of the relevant clinical and fundamental research contributed by the school's former faculty, alumni and house staff. The vignettes selected are "medical firsts" or the initial contributions to the medical literature in a specific field of medicine.

"MEDICAL FIRSTS"

1793 First Rebuttal to the Concept That Yellow Fever Is Contagious

Nathaniel Potter, of Baltimore, was the first American physician to contest the contagion concept of yellow fever strongly advocated by Benjamin Rush. Potter proposed his theories in letters to Rush dated August 20 and October 28, 1793. Later, in 1797 and 1798, Potter inoculated himself with sweat and suppurative material from a bubo of yellow fever patients and did not become ill. Doctor Potter became the first Professor of Theory and Practice of Medicine in 1807 and held the Chair until his death in 1843.

Ref.: Potter, Nathaniel: A memoir on contagion, more especially as it respects yellow fever. Read in Convention of the Medical and Chirurgical Faculty of Maryland, June, 1817.

1800 First Introduction of Smallpox Vaccination in America

John Crawford, M.D. introduced smallpox vaccination to Baltimore while Dr. Benjamin Waterhouse was experimenting with vaccine in Boston, Massachusetts. After his formal education in Europe (Bacc., Dublin; M.D., Leyden), Crawford practiced medicine and surgery in the East Indies and later Barbados. He arrived in Baltimore in 1796 and during the next seventeen years was instrumental in founding the Penitentiary, the Maryland Society for Promoting Useful Knowledge, the Baltimore General Dispensary, the Hibernian Benevolent Society and the Baltimore Library. He was a distinguished lecturer of the college and sponsored College of Medicine courses.

Ref.: Cordell, University of Maryland 1807-1907, Vol. I.

1811 Prediction of Relation between Insects and Diseases

John Crawford, of Baltimore, correctly predicted a relationship between insects and human illness and published his concepts in a monograph. Crawford gave lectures to University of Maryland medical students and contributed his books and documents which provided the stimulus and means for development of the school's excellent medical library.

History recognizes him as having initiated the technique of Jennerian vaccination in Baltimore simultaneously with Waterhouse in Boston.

Ref.: Crawford, John: A lecture, introductory to a course of lectures in the cause, seat and cure of diseases. Published by Edward J. Coale, 1811.

1819 Early Treatise on Materia Medica in America

William Zollicoffer graduated from the University of Maryland School of Medicine in 1818 and later became lecturer on Botany, Materia Medica and Toxicol-

ogy. He is credited with publication of the earliest systematically arranged *Materia Medica* in the United States.

Ref.: Zollicoffer, *Materia Medica*, Baltimore. William R.J. Matchett, 1819.

1842 First Systematic Monograph on Febrile Illness in America

Dr. Elisha Bartlett, Professor of Theory and Practice of Medicine of the University of Maryland from 1844 to 1846, published the first worthwhile systematic discussion of typhus fever with minute and accurate analysis of signs and symptoms. His treatise on fevers was reproduced in four editions and immediately placed him in the front rank of American physicians of his time.

Bartlett disagreed with Rush's diagnosis and treatment of patients with yellow fever during the 1793 epidemic in Philadelphia.

Ref.: Bartlett, Elisha: The history, diagnosis and treatment of typhoid and typhus fever. Philadelphia: Lea and Blanchard, 1842.

1848 Initial Report of Chemical Changes in Blood Produced by Disease

Dr. Charles Frick graduated from the University of Maryland School of Medicine in 1845. He was Professor of *Materia Medica* and Therapeutics at the School of Medicine beginning in 1858, a position he held until 1860, when he died of diphtheria contracted from a patient.

Professor Frick was an illustrious lecturer and a dedicated investigator. In 1850, he published a manual on the *Diagnosis and Pathology of Renal Diseases*. He made exhaustive studies of the blood and urine. Professor Frick "was one of the first in the country to investigate the chemical changes produced in the blood by disease."

Ref.: Trans. Am. Med. Assoc. 1:65, 1848.

1853 Initial Use of Microscope in America for Diagnosis of Cancer

Francis Donaldson, M.D., a graduate of the University of Maryland School of Medicine in 1846 and Professor of Pathology from 1866 to 1880, introduced the microscope to America as an essential instrument in the diagnosis of malignancy in 1853. Doctor Donaldson was the first American to advise the use of excision aspiration and exfoliative biopsy technique.

Doctor Donaldson studied under Dr. Samuel Chew and interned at the Baltimore Almshouse. For two years he studied in Europe, returned to Baltimore in 1848, and held appointments as Attending Physician at the Almshouse, Professor of *Materia Medica* at the Maryland College of Pharmacy and the Chair of Phys-

iology and Hygiene in 1866 at the University of Maryland. Doctor Donaldson published an important paper on the significance of the pre-systolic murmur in 1874.

Ref.: Donaldson, F.: The practical application of the microscope to diagnosis and cancer. *Am. J. Med. Sci.* **25**: 43, 1853.

1853 First Application of Exfoliative Biopsy for Diagnosis of Cancer

Doctor Donaldson was an accomplished physician and pathologist. He was the first American physician to utilize excision aspiration and the technique of exfoliative biopsy for the diagnosis of cancer. His paper on the subject was comprehensive with illustrations and descriptions of the microscopic appearance of cancer cells. This work long antedated that of Papanicolaou.

Ref.: Donaldson, F.: Pathological anatomy. Jones and Sieviking (First American Edition) pp. 197–207.

1857 Initial Report of Scleroderma in the United States

Dr. Abram B. Arnold reported the first three cases of scleroderma in the United States. Doctor Arnold graduated from the Washington University School of Medicine in Baltimore (forerunner of the Baltimore Medical College, later the University of Maryland) in 1848 and was Professor of Clinical Medicine and Diseases of the Nervous System, College of Physicians and Surgeons of Baltimore from 1872 to 1880.

Ref.: Three cases of scleroderma with remarks n.s. *Am. J. Med. Sci.* **87**: 1857.

1878 Original Treatise on Leprosy in Baltimore

Dr. George H. Rohe graduated from the University of Maryland School of Medicine in 1873. He was Professor of Clinical Dermatology and Hygiene at the College of Physicians and Surgeons (later the University of Maryland School of Medicine) from 1878 to 1880.

Doctor Rohe made significant contributions in the field of dermatology particularly with respect to herpetic infections and venereal diseases.

His treatise on leprosy was the first report of this ancient disease in Maryland which included actual reports of three cases observed during ten years.

Ref.: Rohe, G.H.: Leprosy. *Maryland Med. J.* **3**: 141–157, 1878.

1880 Maryland Medical Historian: First Description of Erysipelatous Pneumonia

Eugene F. Cordell, graduated from the University of Maryland School of Medicine in 1868, was Professor of Materia Medica and Therapeutics at the Women's Medical College of Baltimore. Doctor Cordell made a lasting contribution to the medical school and hospi-

tal through his studious and painstaking publications dealing with Maryland graduates and faculty members. His books on the Medical Annals of Maryland are priceless historical resources.

Doctor Cordell published a significant paper on erysipelatous pneumonia, a rare and important type of lung infection. This was the first report of this disorder in America.

Ref.: Cordell, E.F.: The Medical Annals of Maryland 1799 to 1899.

Cordell, E.F.: Erysipelatous Pneumonia. *Maryland Med. J.* **7**: 60–62, 1880.

1883 Confirmation That Gonorrhea Is a Bacterial Disease

Newberry A.S. Keyser, while a student of medicine at the University of Maryland, published a convincing paper which confirmed Neisser's observations of 1879 and 1882 that the gonococcus caused gonorrhea. Also, he showed that Ehrlich's use of methylene blue as a stain, which he reported in 1881, was a reliable technique.

This spread of bacteriological knowledge and investigative evidence was remarkable since Keyser, a medical student, provided information which antedated that of Dr. William Welch, a recognized authority in Baltimore and in America.

Doctor Keyser was born in 1860, went to Friends School and the Johns Hopkins University and graduated from the University of Maryland School of Medicine in 1883. He remained in Baltimore until 1890, moved to Jerusalem, Harford County and up to 1929 was reported as living in Upper Falls, Baltimore County.

Ref.: Keyser, N.A.S.: Is gonorrhea a bacteria disease? *Maryland Med. J.* **9**: 481–488, 1883.

1890 Initial Report of an Acidophilic Body (Councilman Body) in Liver of Patients with Yellow Fever

William Thomas Councilman, graduate of the University of Maryland in 1878, was Dr. William Welch's first resident at City Hospitals and later a faculty member in physiology, anatomy and pathology at the Johns Hopkins University from 1880–1891. Doctor Councilman taught classes in pathology at the University of Maryland and the College of Physicians and Surgeons from 1883 to 1886. He joined Welch at Hopkins in 1886 and, in 1892, was chosen as the Shattuck Professor of Anatomy at the Harvard Medical School.

Doctor Councilman's lasting contributions are his description of the hepatic manifestations in patients with yellow fever and his description of an acidophilic body known as "Councilman body."

Later, in 1904, Councilman published a monograph on pathology and on the etiology of variola and of vaccinia which is acknowledged as a classic in this field. His studies made with various associates, on meningitis (demonstration of the meningococcus as a

causative agent), variola and vaccines are among his important scientific contributions.

Ref.: Councilman, William T., Magrath, G.B. and Brinkerhoff, W.R.: The pathology of anatomy and history of variola. *J. Med. Res.* **XI**: (February) 1904.

Councilman, W.T.: 1890 Pathologic histology of yellow fever. In G.M. Sternberg, Report on etiology and prevention of yellow fever, U.S. Marine Hospital Service, Public Health Report: Bull. no. 2, 151–159.

1894 First Description of Blastomycosis

Thomas Caspar Gilchrist described the first case of blastomycosis of the skin. His important contribution was the identification and isolation of the double contoured spore, *Blastomyces dermatitidis*. He identified the organisms under the microscope and made accurate drawings which remain of great value.

Doctor Gilchrist, born on June 15, 1862, at Crewe, Cheshire, England, received his M.B. degree in London and came to America in 1889. After spending some time in Philadelphia, he entered practice in Baltimore. He was the first to hold the title of Clinical Professor of Dermatology at the Johns Hopkins Medical School in 1898, and simultaneously the position of Clinical Professor of Dermatology at the School of Medicine, University of Maryland, which he assumed in 1897. In 1907, Maryland awarded him the honorary degree of Doctor of Medicine.

1898 First Report of Need for an “Extrinsic Incubation Period” in Yellow Fever

Henry Rose Carter, graduate of the Class of 1878 and intern at the University of Maryland Hospital, entered the United States Public Health Service. In 1898, two years before the dramatic report of the Reed Yellow Fever Commission, Carter reported the concept that an “extrinsic incubation period” was required before human transmission of the agent of yellow fever occurred after contact with an index case of yellow fever. Carter fixed the extrinsic incubation period at 10 to 17 days; the Reed group later set it at 9 to 16 days. Carter, along with Carlos Finlay, was nominated for the Nobel Prize in 1904.

Ref.: Carter, H.R.: Note on interval between infecting and secondary cases of yellow fever from records at Orwood and Taylor, Miss., in 1898. *New Orleans Med. and Surg. J.* **52**: 617–636, 1900.

1900 First Experimentally Induced Case of Yellow Fever; Member of Reed Commission

James Carroll, graduate of the Class of 1891, was second in command under Walter Reed of the Cuban Yellow Fever Commission. On August 31, 1900, Carroll voluntarily submitted to the bite of an infected and incubated *Aedes aegypti* mosquito placed upon him by Jesse Lazear. He was the first experimentally in-

duced case of yellow fever. He later conducted other significant experiments which contributed materially to the success of the Commission. Carroll, along with his Commission associates, was nominated for the Nobel Prize.

Ref.: Reed, Walter; Carroll, James; Agramonte, Aristides; and Lazear, Jesse W.: The etiology of yellow fever. A preliminary note. *Am. Pub. Health ASU. The Berlin Printing Company, Columbus, Ohio*, 1901.

1902 Discovery of Wright's Stain

Dr. James H. Wright was the top honor graduate of the University of Maryland School of Medicine in 1892. While serving as Director of Pathology at the Massachusetts General Hospital, he conducted studies with polychrome blood stain and reported the results which now bear his name, “Wright's stain.”

Ref.: Wright, J.H.: *J. Med. Res.* **7**: 138 (Jan.) 1902.

Wright, J.H.: *Boston Med. and Surg. J.* **154**: 23, 643 (May 31) 1906.

1906 First Description of a New Disease, Histoplasmosis

Samuel Taylor Darling, top honor graduate of the Class of 1903 and Instructor in Histology and Pathology of the College of Physicians and Surgeons in Baltimore (later merged with the University of Maryland School of Medicine), made the first clinical and pathological description of a disease associated with tubercle-like lesions in the lungs, liver, spleen and lymph nodes while working at the Ancon Hospital in the Canal Zone. The disease, which for many years was known as Darling's disease, was disseminated histoplasmosis. Darling became a world authority as an epidemiologist and tropical disease expert. He was nominated for the Nobel Prize.

Ref.: Darling, S.T.: A protozoan general infection producing pseudotubercles in the lung and focal necrosis in the liver, spleen and lymph nodes. *J.A.M.A.* **46**: 1283–1285, 1906.

1909 First Treatise on Rabies in Maryland

Dr. Nathaniel Garland Keirle graduated from the University of Maryland School of Medicine in 1858. He practiced medicine in Baltimore and was recognized for his ability as a pathologist. For a number of years, he was Medical Examiner of Baltimore. During his remarkably productive life, Professor Keirle was a friend and collaborator of Dr. William H. Welch of the Johns Hopkins School of Medicine and Hospital and was closely associated with Dr. George W. Miltenberger, Professor of Materia Medica and Therapeutics, and other University of Maryland faculty.

Doctor Keirle published the first monograph on rabies in Maryland which stemmed from his experimental studies and personal observations.

Ref.: Keirle, N.G.: *Studies on Rabies. The Lord Baltimore Press*, 1909.

1923 Use of Splenomegaly as Index of Severity and Extent of Malaria in a Population Group

Dr. Samuel Taylor Darling, graduate of the College of Physicians and Surgeons (later the University of Maryland School of Medicine) in 1903 became one of America's leading authorities in tropical medicine and parasitology. His laboratory research and field epidemiologic studies achieved international recognition for him in the field of malaria, hookworm disease and dysenteric disorders, particularly amoebic dysentery.

Doctor Darling, with his broad training and field experience, applied the spleen index rather than the medical history and blood smear as an indicator of the extent and severity of malaria in the United States. Furthermore, his work included the more accurate technique of examining children and adults while reclining. He concluded that spleen size was directly related to severity of illness.

The University of Maryland conferred the degree of Doctor of Science upon Doctor Darling in 1923.

Ref.: Darling, Samuel T.: Ascertaining splenic index and mosquito focus from school children. *J.A.M.A.* **80**: 740-743, 1923.

1929 Initial Clinical Report of a Pheochromocytoma Diagnosed Successfully and Cured Surgically

The first case of paroxysmal hypertension associated with a suprarenal tumor (pheochromocytoma) to be diagnosed pre-operatively and removed successfully was reported by Dr. Maurice C. Pincoffs. Doctor Pincoffs was the distinguished Professor of Medicine and Chairman of the Department from 1922 to 1954.

Dr. Arthur M. Shipley, Professor and Chairman of the Department of Surgery, performed the successful operation.

Ref.: Pincoffs, Maurice C.: A case of paroxysmal hypertension associated with suprarenal tumor. *Trans. Assoc. Am. Phys.* **XLIV**: 295, 1929.

1930 Index Case of Murine Typhus Fever Which Led to Rickettsial Isolation from Rats and Fleas

In August, 1930, a febrile patient, Dr. Joseph Lipsky, entered Mercy Hospital with high fever, prostration, headache and general malaise. Doctor Lipsky graduated from the College of Physicians and Surgeons in 1914. His physician, Dr. Louis A.M. Krause, and Dr. Maurice C. Pincoffs, consultant, made an initial diagnosis of typhoid fever which was changed to typhus fever at the time of discharge based on negative blood cultures and a positive Proteus OX 19 reaction. These results were reported to authorities of the Public Health Service at the National Institutes of Health, Washington, D.C. Doctors Dyer, Rumreich and Badger made an epidemiologic study of Doctor Lipsky's drug store at Pennsylvania Avenue and Laurens Street. They identified a rickettsial agent in the brains of rats taken in the basement of the store and in fleas from these rodents.

This represented the index case of murine typhus fever (formerly known as Brill's disease or endemic typhus fever) and opened a new concept of the ecology and reservoir of typhus fever.

Doctor Krause graduated from the University of Maryland with top honors in 1917.

In 1969, Dr. T.E. Woodward, Professor of Medicine, located Doctor Lipsky who practiced medicine in Odenton, Maryland. In January, 1969, at the age of 76, and forty years after his attack of typhus fever, Doctor Lipsky's blood serum showed a low titer of typhus antibodies and developed a high rise after vaccination with an inactivated rickettsial antigen. This represented forty years of immunologic memory by lymphocytes. Doctor Lipsky died in 1973 at the age of 81.

Ref.: Dyer, R.E., Rumreich, A.S. and Badger, L.F.: The typhus-Rocky Mountain spotted fever group in the United States. *J.A.M.A.* **97**: 589-595, 1931.

1938 Initial Detection and Clinical Report of Disseminated Histoplasmosis (Darling's Disease) in Maryland

Dr. Samuel T. Darling made the initial report of a new disease, later identified as disseminated histoplasmosis, in Panama in 1906. Darling predicted in his report in the *Journal of the Alumni Association of the College of Physicians*, Baltimore (January, 1907, page 102) that "the corresponding American disorder is bound to appear in Baltimore some day. I hope it won't catch you napping."

Dr. Robert B. Wright, Professor of Pathology of the University of Maryland School of Medicine until his retirement in 1961, and Dr. Frank W. Hachtel, Professor and Chairman of the Department of Bacteriology from 1924 to 1954, were not caught unaware and reported the first documented case in Maryland. They identified the organism in tissues and isolated *Histoplasma capsulatum* from a fatal case, a diabetic bartender whose specific diagnosis was made before his death in March, 1938.

Ref.: Wright, R.B. and Hachtel, F.W.: Histoplasmosis of Darling: Report of a case. *Ann. Int. Med.* **15**: 309, 1941.

1939 Initial Clinical and Pathological Report of Boeck's Sarcoid with Predominant Cardiac Involvement

Dr. Edward F. Cotter graduated from the University of Maryland School of Medicine in 1935 and served his house officership at the University Hospital; he was Chief Medical Resident from 1939 to 1940. He trained in pathology at the Vanderbilt University Hospital under Dr. Ernest Goodpasture from 1938 to 1939. Later, Doctor Cotter joined the faculty of the University of Maryland School of Medicine and Hospital, headed the teaching Division of Physical Diagnosis of the Department of Medicine, and was recog-

nized as one of Baltimore's leading practitioners of medicine.

While in Nashville, Doctor Cotter studied and reported the findings of a case of Boeck's sarcoid notable because of extensive invasion of the myocardium which culminated in death from cardiac failure. This was the first reported case of this syndrome.

Ref.: Cotter, E.F.: Boeck's sarcoid. Autopsy case with visceral lesions. *Arch. Int. Med.* **64**: 286, 1939.

1941 Initial Reported Case of Murine Typhus Fever in Jamaica, B.W.I.

The first case of endemic (murine) typhus fever identified in Jamaica, British West Indies, was reported by investigators of the Army Medical School, Army Medical Center, Washington, D.C., and an investigator from the University of Maryland School of Medicine. This was the initial case report of this entity or any rickettsial disease in Jamaica and stimulated further exploration of the presence of rickettsioses in the Caribbean Islands.

Ref.: Plotz, H., Woodward, T.E., Philip, C.B., Bennett, B.L., and Evans, K.L.: Endemic typhus fever in Jamaica, B.W.I. *Am J. Pub. Health* **33**: 812-814, 1943.

1942 Initial Report of a One-Dose Vaccine Regimen for Protection Against Epidemic Typhus Fever

While working in North Africa at the Pasteur Institute of Morocco as a member of the United States of America Typhus Fever Commission during World War II, Dr. T.E. Woodward conducted studies with French authorities in primates and in volunteers which showed that one dose of an inactivated rickettsial typhus vaccine stimulated antibody formation and was protective against the disease.

Ref.: Official Report to Chief Surgeon, North African Theater of Operations, Director, U.S.A. Typhus Fever Commission and Chief, Preventive Medicine Section, Office of the Surgeon General (Army), December, 1942: History of Preventive Medicine in World War II, Office of the Surgeon General, Department of the Army, 1964.

1945 Initial Catheterization of Renal and Hepatic Veins in Humans; Pioneering Studies of the Normal Hepatic Circulation and in Disease States

Dr. Stanley E. Bradley, Bard Professor of Medicine of the College of Physicians and Surgeons of Columbia University, was Professor and Chairman of the Department of Medicine at that institution from 1959 to 1970. Doctor Bradley was recognized as one of the nation's leading authorities on the renal and hepatic circulations. He was the first physician to catheterize the renal and hepatic veins in man, to elucidate the

hepatic circulation and detect abnormalities in function through meticulous physiologic studies in normal man and in disease states. Doctor Bradley was an associate of Dr. Andre F. Cournand, who received the Nobel Prize in Medicine in 1956 for his discoveries concerning cardiac catheterization.

Doctor Bradley was the Faculty Gold Medalist of the Class of 1938. He served on the House Staff at the University of Maryland Hospital from 1938 to 1940. He received the University of Maryland Medical Alumni Honor Award and Gold Key in 1960.

Dr. William D. Blake, himself a noted renal physiologist, collaborated with Doctor Bradley in these classic studies of renal function. In 1960, Doctor Blake was appointed Professor and Chairman of the Department of Physiology at the University of Maryland School of Medicine.

Ref.: Bradley, S.E., Ingelfinger, F.J., Bradley, G.P. and Curry J.J.: The estimation of hepatic blood flow in man. *J. Clin. Invest.* **24**: 890, 1945.
Bradley, S.E., Bradley, G.P., Tyson, C.J., Curry, J.J. and Blake, W.D.: Renal function in renal disease. *Am. J. Med.* **9**: 776, 1950.

1945 Co-Founder and Director of Baltimore Rh Blood Typing Laboratories

Dr. Milton S. Sacks graduated from the University of Maryland School of Medicine in 1934 and joined the medical faculty in 1936. Always regarded as an outstanding teacher of hematology in Baltimore, he was elevated to the rank of full Professor in 1955. He headed the Division of Clinical Pathology in the medical school and directed the clinical laboratories of the hospital for about three decades.

Doctor Sacks made significant contributions in the field of genetics through careful clinical observations of inherited familial hematological disorders.

The Baltimore Rh Blood Typing Laboratory was organized as a cooperative venture by the Maryland Obstetrical and Gynecological Society and the University of Maryland School of Medicine and Hospital. Doctor Sacks was the chief consulting advisor to the laboratory and was the first director, a position which he held until his death in 1964.

1947 Development of New Simplified Technique for Cultivation of Tubercle Bacilli

Dr. Gardner Middlebrook joined the faculty of the University of Maryland School of Medicine in 1965 as Professor International Medicine and Head of the Division of Experimental Pathology. Throughout his medical scientific career, Doctor Middlebrook has contributed importantly to knowledge of the antigenic composition of tubercle bacilli, virulence, pathogenesis and immunopathologic relationships in tuberculosis.

In 1947, while working with Dr. Rene Dubos at the Rockefeller Institute (later Rockefeller University), he

developed a more effective and simplified method of cultivating *Mycobacterium tuberculosis* on artificial media using Tween 80 which has become a standard technique throughout the world.

In 1971, Doctor Middlebrook was appointed Professor of Pathology.

Ref.: Dubos, R.J. and Middlebrook, G.: Media for tubercle bacilli. *Am. Rev. Tuberculosis* **56**: 334, 1947.

1948 Initial Therapeutic Cure of Scrub Typhus Fever; First Demonstration of Successful Active Chemoprophylaxis

From March to June, 1948, a research team of scientists from the Army Medical Service Graduate School and the University of Maryland School of Medicine conducted the initial clinical studies of the efficacy of Chloromycetin (chloramphenicol) at the Institute for Medical Research (I.M.R.), Kuala Lumpur, Malaya. Dr. Joseph E. Smadel headed the medical mission; Dr. Theodore E. Woodward, of the University of Maryland School of Medicine, directed the clinical studies. Dr. Herbert L. Ley (laboratory scientist), Major Robert L. Traub and Col. Cornelius B. Philip (entomologists) comprised the remainder of the team.

In March, 1948, Doctor Smadel and the team reported the first dramatic cure for scrub typhus fever with Chloromycetin. During this four-month period, March to June, 1948, this team of scientists conducted chemoprophylactic studies in volunteers which showed that this broad spectrum antibiotic used intermittently, rather than continuously, was effective in preventing scrub typhus fever. The field trials were a classic example of immune concepts based on active immunization and chemoprophylaxis.

Doctor Smadel was a visiting lecturer and friend of the University of Maryland School of Medicine and Hospital. Doctor Woodward joined the faculty of the Department of Medicine in 1946. Dr. Robert Traub was appointed Professor of Microbiology at the University of Maryland School of Medicine in 1962.

The Medical Science Team received a nomination for the Nobel Prize. The Albert Lasker Medical Award was presented to Doctor Smadel for this work in 1962.

Ref.: Smadel, J.E., Woodward, T.E., Ley, H.L., Jr., Philip, C.B., Traub, R., Lewthwaite, R. and Saviour, S.R.: Chloromycetin in the treatment of scrub typhus. *Science* **108**: 160-161, 1948.
Smadel, J.E., Traub, R., Ley, H.L., Jr., Philip, C.B., Woodward, T.E. and Lewthwaite, R.: Chloramphenicol (Chloromycetin) in the chemoprophylaxis of scrub typhus (tsutsugamushi disease). Results with volunteer exposed in hyperendemic areas of scrub typhus. *Am. J. Hyg.* **50**: 75-91, 1949.

1948 First Successful Specific Antibiotic Treatment of Rocky Mountain Spotted Fever

In August, 1948, a team of scientists from the University of Maryland School of Medicine and Hospital and the Army Medical Service Graduate School reported the dramatic efficacy of Chloromycetin in patients with Rocky Mountain spotted fever in Maryland. This report by Dr. Maurice C. Pincoffs and his associates coupled with the earlier therapeutic cures reported for scrub typhus and murine typhus fever represented a major advance which removed the rickettsial diseases from the list of lethal infectious diseases.

Ref.: Pincoffs, M.C., Guy, E.B., Lister, L.M., Woodward, T.E. and Smadel, J.E.: The treatment of Rocky Mountain spotted fever with Chloromycetin. *Ann. Int. Med.* **29**: 656-663, 1948.

1948 Initial Specific Therapeutic Cure of Typhoid Fever

In April, 1948, Dr. Theodore E. Woodward, Clinician Member of the U.S. Army Medical Research Team in Kuala Lumpur, and faculty member of the University of Maryland School of Medicine and Hospital, began the initial studies which led to the first reported specific cure of typhoid fever with chloramphenicol. This ancient disease was thus brought under therapeutic control. The studies were initiated during the clinical therapeutic trials which demonstrated that patients with scrub typhus fever could be dramatically cured with chloramphenicol for the first time. The typhus studies were conducted between April and June, 1948, with the publication later in 1948.

Doctor Woodward made the initial clinical observations and conducted the clinical studies for the Medical Mission to Malaya. The University of Maryland sponsored the research contract for the work conducted on typhus fever and typhoid fever.

Doctor Woodward graduated from the University of Maryland School of Medicine in 1938 and became Professor of Medicine and Chairman of the Department at the University of Maryland in 1954. He was a charter member of the Delegation of the United States-Japan Cooperative Medical Science Program in 1965.

Ref.: Woodward, T.E., Smadel, J.E., Ley, H.L., Jr., Green, R. and Mankikar, D.S.: Preliminary report on the beneficial effect of Chloromycetin in the treatment of typhoid fever. *Ann. Int. Med.* **29**: 131-134, 1948.

1948 Initial Reports of Cures of Gonorrhea and Early Syphilis with Broad Spectrum Antibiotics

Beginning in 1948, Dr. Harry M. Robinson, Jr. and his associates initiated studies of the efficacy of broad spectrum antibiotics, such as chloramphenicol and aureomycin and other tetracycline agents, in patients with the major venereal diseases. These were the initial investigations which showed that gonorrhea and

early syphilis could be effectively treated by oral administration. At this point, the clinician had effective new forms of treatment when penicillin was ill-advised.

Doctor Robinson graduated in the Class of 1935. Following his house officership in medicine and special training in dermatology, he joined the faculty of Medicine in 1941, served in the Armed Forces from 1941 to 1945, and was appointed Director of the Division of Dermatology in 1954 with the rank of full Professor. He received numerous awards for his contributions to the field of dermatology and was Vice President of the American Dermatological Association in 1975–76.

Ref.: Robinson, J.M., Jr. and Robinson, H.M., Sr.: Studies on chloramphenicol in early syphilis and gonorrhea. *South. Med. J.* **42**: 988–991, 1949.

1950 Pioneer in the Use of Epidemiologic Methods in the Etiologic Study of Chronic Diseases

Dr. Abraham M. Lilienfeld graduated from the University of Maryland School of Medicine in 1944. By virtue of his outstanding contributions as an epidemiologist, Doctor Lilienfeld received many awards, such as the Bronfman Prize and the John Snow Awards of the American Public Health Association primarily because he was regarded as “the foremost figure in the epidemiology of chronic disease.” The University of Maryland conferred the degree of Doctor of Science upon him in 1975. For many years, he was Professor of Epidemiology at the Johns Hopkins School of Hygiene and Public Health.

Doctor Lilienfeld has tracked down clues to an amazing variety of chronic disorders such as cerebral palsy, epilepsy, mental deficiency, cirrhosis of the liver, gout, hyaline membrane disease, mongolism, ulcerative colitis, heart disease and stroke. He is especially noted for his work on neoplastic diseases.

Ref.: Lilienfeld, A.M., Pederson, E. and Dowd, J.E.: *Cancer epidemiology: Methods of study.* Hopkins Press, Baltimore, 1967.

1950 Initial Convincing Publication Establishing the Relationship of Cancer and Cigarette Smoking

Dr. Morton I. Levin graduated summa cum laude from the University of Maryland School of Medicine in 1930. As a noted epidemiologist, Doctor Levin, while Assistant Commissioner for the New York State Department of Health, published the initial convincing report which clearly stressed the relationship of cancer with cigarette smoking. Doctor Levin's work involved a study of all patients admitted to the Roswell Park Memorial Institute, Buffalo, beginning in 1938.

Ref.: Levin, M.I., Goldstein, H. and Gerhardt, P.R.: Cancer and tobacco smoking, a preliminary report. *J.A.M.A.* **143**: 336–338, 1950.

1950 Initial Report of Antitoxemic Effects of Corticosteroids in Patients with Typhoid Fever and Rocky Mountain Spotted Fever

Various staff members of the Department of Medicine of the University of Maryland School of Medicine and Hospital reported the results of clinical trials of the efficacy of corticosteroids in patients seriously ill with typhoid fever (1950) and Rocky Mountain spotted fever (1951). Dramatic reduction in toxic signs of illness and rapid defervescence occurred usually within twenty-four hours of initiating steroid treatment in conjunction with antibiotics. These investigators concluded that corticosteroids were therapeutically indicated only in those patients seriously ill with these diseases who were encountered late in illness and that broad spectrum antibiotics remained the mainstays of management.

Ref.: Woodward, T.E., Hall, H.E. and Parker, R.T.: Cortisone as an ancillary aid in the treatment of typhoid fever. *Trans. Am. Clin. and Clim. Assoc.* **62**: 1, 1950.

Workman, J.B., Hightower, J.A., Borges, F.J., Furman, J.E. and Parker, R.T.: Cortisone as an adjunct to chloramphenicol in the treatment of Rocky Mountain spotted fever. *New Eng. J. Med.* **246**: 962, 1962.

1951 Early Fundamental Studies of Pathogenesis and Physiologic Abnormalities in Rickettsial Diseases

Beginning in 1951, Dr. Charles L. Wisseman, Jr. and his associates made the initial report of a series of fundamental studies designed to clarify the pathogenesis and physiologic abnormalities in various of the rickettsial diseases, specifically the typhus fevers and Rocky Mountain spotted fever, as a guide to developing better means of diagnosis, prevention and management.

Particularly significant was the initial elucidation of the composition of rickettsiae (1951) and the fundamental investigations of the mechanisms of action of rickettsial toxins (1954). Later work of Doctor Wisseman clarified the chemotactic and phagocytic events following introduction of rickettsiae into the host.

After graduation from the Southwestern Medical School, Doctor Wisseman was a house officer in medicine. He received specialized training in parasitology and joined the United States Army with assignment at the Army Medical Service Graduate School in 1948, where he initiated his rickettsial studies. In 1954, Doctor Wisseman was appointed Professor and Chairman of the Department of Microbiology at the University of Maryland School of Medicine. Doctor Wisseman continued his basic work and developed a strong program for teaching of medical and graduate students.

Ref.: Wisseman, C.L., Jr., Jackson, E.M., Hahn, F.E., Ley, H.L. and Smadel, J.E.: The effects of antimicrobial substance and enzyme inhibition of the oxidation of glutamate by purified rickettsiae. *J. Immunol.* **67**: 123, 1951.

Paterson, P.Y., Wisseman, C.L., Jr. and Smadel, J.E.: Studies of rickettsial toxins. I. Role of hemolysis in fatal toxemia in rabbits and rats. *J. Immunol.* **72**: 12, 1954.

Wattenberg, L.E., Elisberg, B.L., Wisseman, C.L., Jr. and Smadel, J.E.: Studies of rickettsial toxins. II. Altered vascular physiology in rickettsial toxemia in mice. *J. Immunol.* **74**: 147, 1955.

1951 First Successful Treatment of Septicemic and Pneumonic Plague with Broad Spectrum Antibiotics Given Orally

Dr. Fred R. McCrumb, Jr. and his associates, Doctors Joseph E. Smadel, Kenneth Goodner and Theodore E. Woodward, conducted studies at the Pasteur Institute, Tananarive, Madagascar, under the sponsorship of the Army Medical Service Graduate School and the University of Maryland School of Medicine and Hospital. This was the first demonstration that the broad spectrum antibiotics, chloramphenicol and terramycin, cured the septicemic and pneumonic types of human plague.

Ref.: Smadel, J.E., Woodward, T.E., Amies, C.R. and Goodner, K.: Antibiotics in the treatment of bubonic and pneumonic plague in man. *Ann. N.Y. Acad. Sci.* **55**: 1275–1284, 1952.
McCrumb, F.R., Jr., Mercier, S., Robic, J., Bouillat, M., Smadel, J.E., Woodward, T.E. and Goodner, K.: Chloramphenicol and terramycin in the treatment of pneumonic plague. *Am. J. Med.* **14**: 284–293, 1953.

1953 Initial Clarification of the Epidemiology of Amyotrophic Lateral Sclerosis and Identification of a Possible Environmental Cause

Dr. Leonard T. Kurland, a graduate of the University of Maryland School of Medicine in 1945, received the Faculty Gold Medal as top scholar in the class. After extensive epidemiologic studies, Doctor Kurland, a recognized epidemiologist and authority in the field of neurological disorders, reported the incidence and extent of a Parkinsonism-dementia syndrome resembling amyotrophic lateral sclerosis in natives on the Island of Guam and other Mariana and Caroline Islands. These and other important clinical and neuropathologic observations by Doctor Kurland and his associates were highly significant in clarifying the epidemiology of amyotrophic lateral sclerosis as well as identifying a possible environmental toxic agent as an etiologic factor. It was also shown by him that a familial and apparent dominant hereditary form of ALS plays a role in ALS in the United States and Europe. For his work, Doctor Kurland and his associates received the Annual Neuropathology Prize of the American Association of Neuropathologists in 1961.

Ref.: Kurland, L.T., Choi, N.W. and Sayre, G.P.: Implications of incidence and geographic pat-

terns on the classification of amyotrophic lateral sclerosis. *Motor Neurone Diseases*, Grune and Stratton, Inc. 28–50, 1969.

Mulder, D.W. and Kurland, L.T.: Neurological diseases on the Island of Guam. *U.S. Armed Forces M. J.* **5**: 1724–1739, Dec. 1954.

Kurland, L.T., Mulder, D.W. and Westlund, K.B.: Multiple sclerosis and amyotrophic lateral sclerosis. Etiologic significance of recent epidemiologic and genetic studies. *New Eng. J. Med.* **252**: 694, 1955.

1956 Initial Report of Detection of Hypertension Due to Unilateral Renal Disease by Different Kidney Function Studies

In a series of studies at the Johns Hopkins Hospital, Dr. John Eager Howard, Dr. Thomas B. Connor and their associates clarified the pathogenesis of unilateral renal disease as a significant cause of hypertension. These investigators developed a test of differential renal function by simultaneous catheterization of each ureter and measurement of urine volume, sodium and creatinine excretion. This was a major step in helping identify unilateral renal ischemia as a cause of hypertension. This technique opened the field for more rational treatment including nephrectomy or arterial grafts in selected cases.

Doctor Connor is a graduate of the Class of 1946. He was appointed to the Faculty of Medicine in 1956, was appointed Head of Endocrinology of the Department of Medicine in 1956 and elevated to the rank of full Professor in 1967.

Ref.: Connor, T.B., Berthoug, M., Thomas, W.C., Jr. and Howard, J.E.: Hypertension due to unilateral renal disease with a report on a function test helpful in diagnosis. *Bull. Johns Hopkins Hosp.* **100**: 241, 1957.

1956 Pioneer in Development of Ultrasound as a Technique Useful for Diagnosis and Evaluation of Function.

Dr. Joseph H. Holmes was a medical house officer at the University of Maryland Hospital from 1935 to 1936 and Chief Medical Resident from 1936 to 1937. Doctor Holmes, after further training in physiology and medicine, became Professor of Medicine and head of laboratories and the applied medical science program at the University of Colorado School of Medicine in 1953.

Doctor Holmes was nationally recognized for his leadership role in developing ultrasound as a safe and extremely useful diagnostic technique for many pathologic disorders as well as the use of ultrasound in assessing function.

Ref.: Holmes, J.H. and Lowry, J.H.: A new system for the visualization of soft tissue structures using pulse, echo ultrasonic techniques. *Am. J. Path.* **187**: 605 (Dec.) 1956.

Holmes, J.H. and Lowry, D.H.: Ultrasonic visualization of edema. *Trans. Am. Clin. Assoc.* **70**: 225, 1958.

Holmes, J.H.: Diagnostic ultrasonography. *MCV Quarterly* **3**: 139, 1967.

1956 Determination of Human Infectious Dose of *Coxiella burnetii* (Q Fever) and Evaluation of Vaccine Efficacy

Dr. William D. Tigertt joined the faculty of the University of Maryland School of Medicine and Hospital in 1968 as Professor of Experimental Medicine. Prior to this appointment, Doctor Tigertt served as Commandant of the Walter Reed Army Institute of Research from 1963 to 1968. In 1970, Doctor Tigertt was appointed Professor of Pathology.

Doctor Tigertt (Brig. Gen., retired) made a distinguished career in the field of infectious diseases, in particular for his work on the treatment and control of malaria, while serving in the Army.

In 1956, while Commanding Officer of the U.S. Army Medical Unit, Fort Detrick, Maryland, Doctor Tigertt and his associates determined the human infectious dose of *Coxiella burnetii* (Q fever) and showed that available vaccines protected against illness after aerosol infection of pathologic viable Q fever rickettsia.

Ref.: Tigertt, W.D. and Benenson, A.S.: Studies on Q fever in man. *Trans. Assoc. Am. Phys.* **69**: 98–104, 1956.

1958 Initial Use of Selective Coronary Arteriography

Dr. F. Mason Sones, Jr., graduate of the University of Maryland School of Medicine in 1943 and house officer, 1943–1944, was the first physician in the world to perform the important diagnostic technique of cine coronary artery visualization. This technique which he developed as a senior staff member of the Cleveland Clinic was a significant innovative advance which made it possible to better evaluate patients with coronary artery sclerosis and opened the way to evaluate the efficacy of cardiac by-pass surgery. He received the Gold Key Award of the University of Maryland Medical Alumni Association in 1969.

1958 Clarification of Pathogenesis of Typhoid Fever and Determination of Limited Efficacy of Typhoid Vaccines

Dr. Richard B. Hornick and his associates at the University of Maryland Hospital determined the infectious dose of *Salmonella typhosa* (the cause of typhoid fever) for man based on careful quantitative studies in volunteers which extended for fifteen years. Subsequently, these classic and unique studies in volunteers clarified unsettled problems regarding pathogenesis of this ancient disease and showed that typhoid vaccines protect man against an ID₂₅ dose

(100,000 bacteria) of viable typhoid bacilli and not against larger number of organisms. These studies helped settle the controversial issue regarding the efficacy of typhoid vaccine which prevailed since 1898 and provided guidelines for vaccine dosages and indicated new research. This group initiated studies to evaluate the efficacy of vaccines given orally for immunization of typhoid fever, bacillary dysentery and Asiatic cholera. Doctor Hornick joined the faculty in 1959. He became Director of the Division of Infectious Diseases in 1963 and was elevated to rank of full Professor in 1971.

Dr. Herbert DuPont, Dr. Merrill J. Snyder and others contributed to these studies which were extended to include the pathogenesis and prevention of shigellosis, enteropathogenic *E. coli* and other diarrheas. Dr. DuPont was appointed Associate Professor of Medicine in 1972; Dr. Snyder was elevated to the rank of Professor in 1976.

Ref.: Hornick, R.B., Greisman, S.E., Woodward, T.E., DuPont, H.L., Dawkins, A.T. and Snyder, M.J.: Typhoid fever: Pathogenesis and immunologic control. *New Eng. J. Med.* **283**: 686–691, 739–746, 1970.

1958 Initial Clinical Report of Low-Dose Insulin Regimen for Treatment of Diabetic Ketoacidosis

Beginning in 1958, a group of clinical investigators of the University of Maryland School of Medicine and Hospital initiated studies in patients with diabetic ketoacidosis which showed that low doses of crystalline insulin were as effective as conventional large-dose regimens in treatment. This was the first published clinical report of this new concept.

Dr. Samuel P. Bessman, Professor of Pediatrics and Biochemistry, was the stimulus for these significant clinical studies conducted by members of the Department of Medicine.

Dr. Charles E. Shaw, Jr., senior clinician for this work, graduated from the University of Maryland School of Medicine in 1944 and served as faculty member beginning in 1950.

Ref.: Shaw, C.E., Hurwitz, G.E., Schmukler, M., Brager, S.H. and Bessman, S.P.: A clinical and laboratory study of insulin dosage in diabetic acidosis: Comparison with small and large doses. *Diabetes* **11**: 23–30, 1962.

1960 Clarification of Pathogenesis of Hypocalcemia During Magnesium Deficiency

Hypocalcemia during magnesium deficiency was initially reported in 1960; the mechanisms responsible for the hypocalcemia remained controversial. Clarification of the pathogenesis of this metabolic abnormality was achieved through studies conducted between 1968 and 1970 in the Endocrine Division of the University of Maryland School of Medicine.

In 1968, Dr. Philip Toskes, a graduate of the Class of

1965 and house officer from 1965 to 1968, performed detailed metabolic balance studies in a patient with intestinal malabsorption, magnesium deficiency and hypocalcemic tetany. Unresponsiveness of serum calcium to administered parathyroid extract was clearly demonstrated which was promptly restored by magnesium replacement.

Later, in 1970, Dr. Jane Mahaffey, a graduate of the Class of 1970 and house officer from 1970 to 1973, performed studies which demonstrated elevated levels of circulating parathyroid hormone (PTH) in this patient during the magnesium deficient state.

These observations clearly delineated in a single patient that severe human magnesium deficiency may be associated with impaired action of PTH on its target organs leading to hypocalcemia and elevated levels of circulating PTH. Magnesium replenishment corrected these abnormalities.

1960 Initial Report of Oxalosis in the Negro

Dr. Martha Stauffer, a graduate of the University of Maryland School of Medicine, in 1960, reported the first case of disseminated oxalosis in the Negro race. Hyperoxaluria was detected in the patient by Doctor Stauffer during laboratory studies she conducted during a summer fellowship in the Division of Endocrinology. Widespread deposits of calcium oxalate were found in the kidney, heart, liver and other organs in association with hyperoxaluria. Studies of the patient's parents failed to show abnormal urinary oxalate excretion. Doctor Stauffer performed this clinical study and reported it while she was a senior medical student at the University of Maryland. For her work, she received first prize recognition in the *New England Journal of Medicine* Student Essay Contest.

Ref.: Stauffer, M.: Oxalosis. Report of a case with review of the literature and discussion of pathogenesis. *New Eng. J. Med.* **263**: 386, 1960.

1961 Clarification of Role of Endotoxin in Typhoid Fever and Other Gram-Negative Infections

In a series of unique studies beginning in 1961, Dr. Sheldon E. Greisman clarified the role of bacterial endotoxins in various febrile illnesses caused by gram-negative bacteria. Specifically, in typhoid fever, Doctor Greisman showed convincingly that the clinical manifestations of this disease were not attributable primarily to circulating endotoxins but rather to the potent inflammation-inciting effect of the endotoxin elaborated at the local sites of infection by the typhoid bacillus.

Doctor Greisman joined the faculty of the University of Maryland in 1954. Recognized as a brilliant investigator and most effective teacher, Doctor Greisman was elevated to the rank of Professor of Medicine in 1973 and Professor of Physiology in 1976. Doctor Greisman and his associates conducted these studies in animals and in volunteers as part of a broader program to determine the efficacy of typhoid and other bacterial vaccines in humans.

Ref.: Greisman, S.E., Hornick, R.B., Wagner, H.N., Jr., Woodward, W.E. and Woodward, T.E.: The role of endotoxin during typhoid fever and tularemia in man. IV. The integrity of the endotoxin tolerance mechanisms during infection. *J. Clin. Invest.* **48**: 613, 1969.

1963 Clarification of the Role of Catecholamines and Their Metabolites in Hyper- and Hypothyroidism

The possible relationship of the sympathetic nervous system and its pathogenetic role in patients with hyperthyroidism and hypothyroidism was a controversial issue for many years. Dr. John G. Wiswell and his associates showed that the metabolism of catecholamines and urinary excretion of their metabolites was normal in a study of fifty-two patients with these disorders of thyroid function. These important investigations clearly indicated that abnormal catecholamine production and metabolism could not account for certain manifestations of disorders of thyroid function as had been generally believed.

Doctor Wiswell, a graduate of Dalhousie School of Medicine in 1943, joined the faculty of the Department of Medicine of the University of Maryland in 1955; in 1967, he was elevated to the rank of full Professor. He is a recognized clinical endocrinologist and an outstanding teacher in his field.

Ref.: Wiswell, J.G., Hurwitz, G.E., Coronho, V., Bing, O.H.L. and Child, D.L.: Urinary catecholamines and their metabolites in hyperthyroidism and hypothyroidism. *J. Clin. Endocrin. and Metab.* **23**: 1102, 1963.

1966 Important New Studies of Tryptophan Metabolism and Circadian Rhythmicity in Infectious Diseases

Beginning in 1966, Dr. Morton I. Rapoport and his associate, Dr. William R. Beisel, conducted studies on tryptophan pyrrolase metabolism during various human infectious illnesses. They determined, for the first time, that tryptophan activity varied with the severity of clinical illness and showed a diurnal rhythmicity. Important new clues to mechanisms of pathogenesis and the importance of hepatic function were elucidated.

Doctor Rapoport, a graduate of the Class of 1960, and after a distinguished career in the United States Army, joined the faculty of medicine in 1967. He was promoted to the rank of Professor of Medicine in 1972. From 1970 to 1976, Doctor Rapoport was Head of the Department of Medicine at the Baltimore Veterans Administration Hospital where he and his associates developed an excellent educational unit for training of medical students and house officers.

Ref.: Rapoport, M.I., Feigin, R.H. and Beisel, W.R.: A circadian rhythm for tryptophan pyrrolase activity and its circulating substrate. *Science* **153**: 3744, Sept., 1966.

1967 Pioneer in Correlating Pathophysiologic Abnormalities, Clinical Manifestations and Rational Treatment in Disorders of Carbohydrate Metabolism

Dr. David M. Kipnis, of the Class of 1951, was awarded the Faculty Gold Medal. He served with distinction as Chief Medical Resident at the University of Maryland Hospital from 1954 to 1955. In 1956, the Markle Foundation chose him as a Scholar. His eminent career in medicine culminated in his appointment to the Chair of Medicine at the Washington University School of Medicine and the Barnes Hospital in St. Louis, in 1973.

Doctor Kipnis, an accomplished clinician, pioneered the need for correlating pathophysiologic mechanisms in carbohydrate abnormalities and action of insulin as essential guides for the management of patients with diabetes and hypoglycemia. For his contributions to the field of carbohydrate metabolism, Doctor Kipnis received the Eli Lilly Award for Research and the Oppenheimer Award of the American Endocrine Society in 1967.

1968 Pioneering Studies of Allergic Encephalomyelitis and Immunopathologic Mechanisms as Causes of Diseases

Dr. Michael B.A. Oldstone graduated from the University of Maryland School of Medicine in 1961 and served his house officership in medicine and in neurology at the University of Maryland Hospital from 1961 to 1966. He became a Fellow in the Department of Experimental Pathology, Scripps Clinic and Research Foundation, and Professor of Neurosciences and Pathology, University of California School of Medicine, San Diego.

Among his foremost contributions to the understanding of pathogenesis of infectious diseases was his demonstration, with associates, that allergic encephalomyelitis, particularly in lymphocytic choriomeningitis infections, results from immunopathologic mechanisms.

Doctor Oldstone is recognized as one of the nation's leading contributors to this important field of investigation.

Ref.: Oldstone, M.B.A. and Dixon, F.J.: Immunohistochemical study of allergic encephalomyelitis. *Am. J. Path.* **52**: 251, 1968.

Oldstone, M.B.A. and Dixon, F.J.: The immunological response of LCM viral carrier mice and associated pathologic changes. *Fed. Proc.* **27**: 260, 1968.

1968 Demonstration of Androgenic Stimulation of Secretion of Growth Hormone at Puberty

Growth retardation associated with delayed sexual maturation is common in pubertal boys. Clarification of the cause of the stunted growth was achieved through the investigations of Doctors Luis Martin and Thomas B. Connor in a study of boys with delayed

adolescence and short stature. Initial studies revealed absent or reduced plasma growth hormone responses to standard stimuli in these patients. Following brief androgen administration, distinct enhancement of plasma growth hormone responses was demonstrated. Careful follow-up of each patient indicated that advancement in sexual maturation was later associated with consistent improvement in linear growth rates and sustained increase in plasma growth hormone response to standard stimuli. These studies showed convincingly for the first time that androgen is likely an important mediator of pituitary growth hormone release at puberty and were helpful in delineating the cause of growth retardation in boys with short stature and delayed sexual maturation. It was now possible to separate these patients from others with true isolated pituitary growth hormone deficiency. An additional benefit of this work was the prognostic value to project ultimate growth potential in this same group of patients.

Dr. Luis Martin graduated from the Madrid School of Medicine in 1954. He was appointed Fellow in Medicine in Endocrinology and Metabolism in 1963 and joined the faculty in 1967. The rank of Associate Professor of Medicine was awarded in 1974.

Ref.: Martin, L.G., Clark, J.W. and Connor, T.B.: Growth hormone secretion enhanced by androgen. *J. Clin. Endocrinol. and Metab.* **28**: 425, 1968.

1975 Initial Demonstration of Absence of Essential Enzyme Complexes in Intestinal Brush Border

By means of a brush border membrane purification and fractionation with subsequent separation of membrane proteins using polyacrylamide gel electrophoresis, Dr. James J. Cerda and his associates observed a complete deletion of the sucrose-isomaltase complex in three members of a family with sucrose-isomaltase deficiency and alkaptonuria. These studies are of considerable significance in developing better understanding of physiologic alterations of the intestinal tract.

Doctor Cerda graduated from the University of Maryland School of Medicine in 1961 and served a house officership in medicine at the University Hospital for two years. Following further training in medicine and gastroenterology at the University of Pennsylvania, he became Head of the Section of Gastroenterology at the Veterans Administration Hospital, Philadelphia (1968–1972). In 1972, Doctor Cerda was appointed Associate Professor of Medicine at the University of Florida College of Medicine and in 1974, Associate Director of the University of Florida Clinical Research Center.

Ref.: Cerda, J.J., O'Leary, J.P. and Agresti, H.: Brush border membrane enzymes in morbid obesity. *Gastroenterology* **68**: 872, 1975.
Garnica, A., Preiser, H., Crane, R.K., Rennert,

O. and Cerda, J.J.: The association of alkaptonuria and atypical sucrose-isomaltase deficiency in three siblings. *Ped. Res.* 1975.

1976 Pioneer in Discovery of Slow Virus Infections: Nobel Laureate in Medicine for 1976; Faculty 1953-55

Dr. D. Carleton Gajdusek was one of the initial investigators to search for the etiology of kuru, a fatal, subacute degenerative neurological disease in New Guinea Highland natives. Doctor Gajdusek began field and investigative studies in 1956 which led to his first publication in 1957. Beginning then, Doctor Gajdusek and his associates performed exhaustive studies which culminated in the identification of dormant slow viruses as causes of this and other types of brain disorders. This work opened up new avenues of research into the control and prevention of several degenerative disorders and may hold the key to the prevention of senility. For his monumental work, Doctor Gajdusek was awarded the Nobel Prize in 1976.

Doctor Gajdusek graduated from Harvard Medical School in 1946. He was trained as a pediatrician and urologist and his research has spanned many fields and countries. He was a staff member of the Walter Reed Army Institute of Research and worked under the late Joseph E. Sadel and later at the National Institutes of Health. From 1953 to 1955, Doctor Gajdusek was Instructor in Experimental Medicine at the University of Maryland School of Medicine. His first field trip was to Iran under the sponsorship of the University of Maryland School of Medicine where he worked at the Pasteur Institute in Teheran with Dr. Marcel Baltazard, Director. During this period, Doctor Gajdusek identified the prevalence of poliomyelitis, Q fever and several arbovirus infections in Iran and Afghanistan and performed an important study on rabies which showed the preventive efficacy

of immune serum. Each year, Doctor Gajdusek lectures to sophomore medical students under sponsorship of the Department of Microbiology.

Ref.: Gajdusek, D.C. and Zigas, V.: Degenerative disease of the central nervous system in New Guinea. The endemic occurrence of "kuru" in the native population. *New Eng. J. Med.* 257: 974-978, 1957.

1976 Initial Report of Visualization of Rickettsia in Skin Tissues Using the Immunofluorescence (IF) Technique

The rickettsia of Rocky Mountain spotted fever were visualized in skin biopsy specimens of macular lesions as early as the third and as late as the ninth febrile day. This observation emphasized an earlier means of laboratory confirmation.

Ref.: Woodward, T.E., Pederson, C.E., Jr., Oster, C.N., Bagley, L. R., Romberger, J. and Snyder, M.J.: Prompt confirmation of Rocky Mountain spotted fever: Identification of rickettsia in skin tissues. *J. Infect. Dis.* 134: 297, 1976.

1978 First Report of Rocky Mountain Spotted Fever Caused by Blood Transfusion

An adult patient contracted Rocky Mountain spotted fever after transfusion of blood inadvertently taken from a donor late in the incubation period of his illness. Some of the diseases transmitted by infected blood are syphilis, infectious mononucleosis, Q fever, hepatitis and others.

Ref.: Wells, G.M., Woodward, T.E., Fiset, P. and Hornick, R.B.: Rocky Mountain spotted fever caused by blood transfusion. *J.A.M.A.* 239: (no. 26) June 30, 1978.

INNOVATIVE CONTRIBUTIONS TO MEDICAL EDUCATION

1833 First Medical School Course on Preventive Medicine in America

Dr. Robley Dunglison, a medical graduate of the University of Erlangen, London, in 1824, was Professor of Materia Medica and Therapeutics, Hygiene and Medical Jurisprudence at the University of Maryland School of Medicine from 1833 to 1836. Doctor Dunglison placed much emphasis on the teaching of "hygiene" or preventive medicine, said to have been the first course on this subject in the United States.

Ref.: Callcott, George H.: A history of the University of Maryland. Maryland Historical Society, 1966.

1836 Founder of the Medical College of Virginia and Its First Dean

Dr. Augustus Lockman Warner (1807-1847) graduated in the Class of 1829. After graduation, Warner taught medicine at the Maryland Medical School in Baltimore until his appointment as Professor of Anatomy, Physiology and Surgery at the University of Virginia. He moved to Richmond in 1837. As the first Dean and Professor of Surgery, he organized a new medical school in Richmond under the Charter of Hampden-Sidney College in association with John Cullin, Thomas Johnson, R.L. Bohannon, Socrates Maupin, L.W. Chamberlayne and Robert Mumford.

Ref.: Blanton, Wyndham B.: Augustus Lockman Warner 1807–1847. Founder Medical College of Virginia, First Professor of Surgery and First Dean. *Ann. Med. History* **IV**: 1–9 (January) 1942.

1841 Introduction of Technique of Percussion and Auscultation to Baltimore

Professor William Power, after his medical studies in Paris under Pierre Louis, introduced the principles of auscultation and percussion to the medical faculty and Baltimore physicians. Doctor Power was Professor of Theory and Practice of Medicine from 1846 to 1852. He died of "consumption" at the early age of 39.

1854 First Medical School in America to Introduce Microscopic Histology in the Regular Curriculum

In 1854, the University of Maryland School of Medicine initiated a lectureship in "Experimental Physiology and Microscopy" and placed Dr. Christopher Johnston in charge of the course. Doctor Johnston was an accomplished physiologist and microscopist who had spent several years abroad. He graduated from the University of Maryland School of Medicine in 1843. Later, in 1876, he was President of the Maryland Medical and Chirurgical Faculty. Doctor Johnston served as Professor of Anatomy and Physiology, 1863 to 1866, Professor of Principles and Practice of Surgery, 1870 to 1872, and Professor of Surgery, 1872 to 1880.

Professor William Hammond assumed direction of the course in microscopy in 1861 and microscopes were provided with specimens for study in the museum of all tissues and structures of the body for the use of medical students. The medical faculty, according to Cordell, prided itself on being "the first to introduce into the country the method of studying histology."

Ref.: Cordell, E.F.: University of Maryland 1807–1907, Vol. 1, pp. 224, 1907.

1869 Father of Neurology in Maryland

Francis T. Miles, Professor of Anatomy from 1869 to 1880 and Professor of Physiology from 1880 to 1883 of the University of Maryland School of Medicine, was the first physician to teach the subject of nervous diseases in Baltimore.

Doctor Miles's important research contributions were on the subjects of cerebral tumor, methods of localization, the importance of counter-irritation, and use of galvanic current.

After graduation from the Medical College of South Carolina in 1849, Doctor Miles studied in Paris under Charcot. Early in his professional career, he devoted himself to the study of diseases of the nervous system which culminated in his appointment as Clinical Professor of Nervous Diseases at the University of Mary-

land. He was the first to teach the specialty in Baltimore.

Ref.: Cordell, E.F.: Historical Sketch of the University of Maryland 1807–1907. Vol. I: 143, 1907.

1950 Medical School Dean; President of Philanthropic Foundation

Dr. John Zimmerman Bowers, a graduate of the University of Maryland in 1938, served his house of officership at the University of Maryland Hospital. After a distinguished war record as a naval medical officer, Doctor Bowers received specialized training in nuclear medicine and became Deputy Director, Division of Biology and Medicine of the U.S. Atomic Energy Commission.

Because of his distinguished career and background, Doctor Bowers was appointed Dean of the University of Utah School of Medicine from 1950 to 1955 and Dean of the University of Wisconsin School of Medicine from 1955 to 1961. Doctor Bowers became President of the Josiah Macy, Jr. Foundation in 1964. Doctor Bowers has published several authoritative books on Oriental medicine.

The University of Maryland conferred the degree of Doctor of Science on Doctor Bowers in 1959.

1961 President of the American College of Physicians; Editor of *Annals of Internal Medicine*

Dr. Maurice C. Pincoffs was recognized for many years as one of the outstanding clinicians in Baltimore. He graduated from the Johns Hopkins Medical School in 1912. During World Wars I and II, he was cited for distinguished service and indomitable courage for personal evacuation of the wounded, in France, in 1917, for high morale which he maintained among subordinates and for medical leadership.

From 1922 to 1954, he was Professor and Chairman of the Department of Medicine of the University of Maryland School of Medicine and Hospital. Always active in the affairs of the American College of Physicians, he was elected to the presidency of this leading medical society in 1951.

In 1933, Doctor Pincoffs became chief editor of the *Annals of Internal Medicine*, the leading medical periodical in the world. Under his editorship, the circulation expanded from 2,000 to 22,000 annual subscriptions. The American College of Physicians awarded him Mastership status in 1947.

Doctor Pincoffs was elected to the Presidency of the American Clinical and Climatological Association in 1949.

1957 Medical School Dean and Authority on Infectious Diseases

Dr. Thomas B. Turner graduated with the Class of 1925. After a distinguished career in medicine and in the field of infectious diseases, he was elected to the Deanship of the Johns Hopkins Medical School in

1957. Dean Turner held that distinguished position until 1968. The Turner Auditorium at the Johns Hopkins Hospital is a tribute to him. In 1966, the University of Maryland conferred the degree of D.Sc. upon Doctor Turner and, in 1968, he received the Alumni Gold Key Award of the University of Maryland Medical Alumni Association.

1960 First Formalized Educational Programs to Provide Psychiatric Orientation for the Internist

Dr. Ephraim T. Lisansky, Professor of Medicine and Psychiatry at the University of Maryland School of Medicine and Hospital, initiated a series of postgraduate education conferences in 1960, co-sponsored by the University of Maryland, the Baltimore Psychoanalytic Institute and the American College of Physicians. These popular conferences attracted practicing physicians from throughout the United States. Internists gained new insight into those causative factors which related emotional problems to medical illness. Physicians learned through lectures and group sessions how to manage patients with all types of medical disorders. These courses were the initial formative ones of their type.

Because of his significant contributions directed toward providing psychiatric orientation for internists, Doctor Lisansky was awarded Mastership by the American College of Physicians in 1970 and the William C. Menninger Award of the College in 1974.

1964 Development of First Intensive Coronary Care Unit in Maryland

Under the direction of Dr. Leonard Scherlis, the first coronary care unit in Maryland was established at the University of Maryland Hospital in 1964. Dr. Jerry Salan, Assistant Professor of Medicine, and others assisted in this leadership role which led to the development of a model unit. It served as a prototype for others to follow. Later, many important coronary care units, which were instrumental in reducing mortality in patients with myocardial infarction (particularly in those with abnormal rhythms), developed throughout the state. Among Doctor Scherlis' other contributions were the early studies with associates which established vector cardiography as a research and clinical procedure in acquired and congenital heart disease.

Doctor Scherlis, a graduate of the Johns Hopkins Medical School in 1945, joined the faculty of the University of Maryland School of Medicine in 1952, became head of the Division of Cardiology in 1956; he was elevated to the rank of full Professor in 1967. In 1971, Doctor Scherlis received the Award of Merit of the American Heart Association for having established and directed the Cardiopulmonary Resuscitation Program of the American Heart Association.

Ref.: Scherlis, L., Jude, J. and Farr, M.: Emergency measures in cardio-pulmonary resuscitation. American Heart Assoc. 1965.
Grishman, A. and Scherlis, L.: Spatial vector

cardiography. Saunders and Company, Philadelphia, 1952.

1967 Development of First Residency Training Program in Family Practice in Maryland

Throughout its existence, the University of Maryland School of Medicine and Hospital trained general practitioners who were skilled as family physicians. These graduates have provided Maryland and other states dedicated and competent physicians who have maintained the highest standards of medical practice. In 1967, the first formalized program for training in Family Practice in Maryland and one of the first in the United States, was initiated by the Departments of Medicine, Pediatrics and Preventive Medicine under the direction of Dr. William L. Stewart, of Westminster, Maryland. Other clinical departments collaborated in the training of residents. The program was approved by the American Academy of Physicians in October, 1971. In January, 1972, Family Practice in the hospital and medical school was officially designated as an independent program with responsibility in undergraduate, graduate and continuing education. Dr. Edward J. Kowalewski was the first director of the independent program.

The Department of Medicine began a specific residency training program in General Practice at the University of Maryland Hospital in the mid 1950's. Physicians were recruited for a rotating internship and two additional years in medicine, pediatrics, obstetrics-gynecology, psychiatry, and various other clinical disciplines. Physicians were rotated for two to three months training in outlying Maryland hospitals.

Deans of the University of Maryland School of Medicine

John B. Davidge, 1807–1811, 1813, 1814, 1821
Nathaniel Potter, 1812, 1814
Elisha DeButts, 1816, 1822–1824
William Gibson, 1818
Richard W. Hall, 1819, 1837–1838
Maxwell McDowell, 1820, 1825–1827
Granville Sharp Pattison, 1821–1822
Nathan R. Smith, 1828–1829, 1841
Samuel Baker, 1829–1830
Eli Geddings, 1832–1834, 1836–1837
Robley Dunglison, 1834–1835
Samuel George Baker, 1839
William E. Aikin, 1840–1841, 1844–1845
Samuel Chew, 1842–1844
George W. Miltenberger, 1855–1869
Julian J. Chisolm, 1869–1874
Samuel C. Chew, 1874–1879
L. McLane Tiffany, 1879–1886
J. Edwin Michael, 1886–1890, 1893–1896
I. Edmondson Atkinson, 1890–1893
R. Dorsey Coale, 1896–1897, 1900–1915
C. W. Mitchell, 1897–1900

Arthur M. Shipley, Acting Dean, 1915–16
 J. M. H. Rowland, 1916–1940
 Robert U. Patterson, 1943–1946
 H. Boyd Wylie, Acting Dean, 1940–1943,
 1946–1948
 Dean, 1948–1954
 William S. Stone, 1955–1969
 John H. Moxley, III, 1969–1973
 John M. Dennis, Acting Dean, 1973–1974
 Dean, 1974–

Chairmen of Department of Medicine

Nathaniel Potter	1807–1843
Elisha Bartlett	1844–1846
William Power	1846–1852
Samuel C. Chew	1852–1863
Richard McSherry	1863–1885
Samuel Claggett Chew	1886–1909
Ernest Zueblin (Acting Head)	1911–1913
Gordon Wilson	1913–1922
Maurice C. Pincoffs	1922–1954
Theodore E. Woodward	1954–1981
Frank M. Calia (Acting Head)	1981–1983
John A. Kastor	1984–

CLOSING

From its beginning in 1807, the principles of the theory and practice of medicine were presented to students by a small, dedicated cadre of faculty members. In their teaching, which consisted of didactic lectures presented in Davidge Hall, practically all of the professors taught clinical medicine as it was known and interpreted at that time. With the development of the Baltimore Infirmary, the forerunner of the University of Maryland Hospital, students were allowed to view and learn from the professors during their medical rounds in the hospital.

During all of these early years, and up to the Civil War, students were grounded in the basic principles of general medicine which emphasized diagnosis, therapeutics and ethical medical care. There were few opportunities for student-oriented research and because of their busy medical practice responsibilities, faculty professors had little chance to engage in research. There were exceptions to this which have been amply described in the text.

After the Civil War and early in the twentieth century, the curriculum was strengthened, the period of instruction was lengthened and the teaching of the important principles of general medicine and patient care represented the strengths of the departmental educational program. Graduates of the medical school were assured of having a secure and solid background which enabled them to begin medical practice and progress as able and effective physicians who rendered the high standards of patient care.

After World War II, it became apparent that all Departments of Medicine in medical schools must direct their attention to relevant and clinically oriented research. Any medical school that failed to engage itself in research could expect to relegate itself to mediocrity. Toward this end, the Department of Medicine did enter actively into the field of research which was

accomplished by recruitment of physicians with either a background in investigative medicine or those who would through their career development become investigators of clinical medicine. With these developments, the Department of Medicine specifically and continuously directed its attention to clinical teaching and patient care which had been the tradition of the school and the department since its inception. The development of clinical research served as a stimulus to improve even more the principles of medical education and patient care. Through its research contributions, the department was able to maintain a better balanced program that served to attract attention beyond the confines of Baltimore.

During the years to follow, the Department of Medicine can expect to have an effective and inspiring program by adhering to its mission, which is to assist in the training of young men and women to become good physicians, to engage in the conduct of relevant research and in so doing to render the best possible medical care to patients. There is no question that modern technical methods, such as sophisticated culture techniques, serologic and immunochemical (immunofluorescence) procedures, radioisotope scanning, refinements in diagnostic radiology, computerized tomography and magnetic resonance, have made diagnostic medicine exciting, more accurate and less difficult. Yet, bedside observation and the ability to profit diagnostically from only one or two significant leads often brings clarity out of confusion. The Maryland graduate has always been strong in his/her interpretation of the clinical skills and during recent decades has been schooled in the value of automated techniques. Each is needed in its own place and the careful, well-prepared physician will properly use each to advantage and know best when to lay stress on one or the other.





